

Medical Officer of Health Environmental Health ADVICE

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Introduction

Coming into contact with hypodermic syringes and needles and other sharp items cause great public anxiety. Sharps discarded in public places present a risk of injury and infection, not only to specific occupational groups such as rubbish collection and park operatives but also to the general public, especially children. We include some advice on how findings should be managed.

The Ministry of Health received recently a request for advice on use of cleaners / disinfectants in early childhood centres. Their findings are summarised.

In recent months we have been receiving enquiries from the public concerned about the presence of rats. Whenever

rats are found to be present it is possible that a major problem exists and there is a risk to public health. We give some guidance on the risks and principles of good practice. Climate change is being acknowledged as one of the major environmental threats facing the world today. The Intergovernmental panel on climate change estimate, if no action is taken to limit green house gases ambient temperatures could rise between 1-2.5% over the next 75-100 years. Consequently the pattern of weather could change with an increase in the frequency of heat waves, droughts, storms and floods. We give some advice on managing public health risks associated with flooding of homes and other property.

Sharps in the Community

The growth of intravenous drug use has increased the disease risk to the public when coming in contact with needles and syringes compared to the low level associated traditionally with those discarded by users of prescribed medication, e.g. diabetics. While the risks in public health terms remain relatively low, the finding of sharps in public areas such as parks, playgrounds, toilets etc. generate great public concern.

Health Risks

The main concerns associated with discarded sharps and needlestick injuries are the potential risks for transmission of blood-borne viruses such as Hepatitis B (HBV), Hepatitis C (HCV) and HIV. In a health care setting the risk to a staff member following an injury through the skin from a needle which has been used on an infected patient is around 30% for HBV, 3% for HCV and 0.3% for HIV. Outside this situation the risks are likely to be much lower because discarded needles will often have been lying over a long period of time in conditions un-favourable for the survival of these viruses. Nevertheless, if a needlestick injury occurs there is a possibility of transmission of the virus. Hepatitis B vaccination is available for those judged at greatest risk of needlestick injuries. There are no vaccines available presently to prevent hepatitis C and HIV infection. There is a minor risk also of infection from bacterial skin contaminants such as *Staphylococcus aureus* and from tetanus if the sharp has been in contact with the ground.

People who suffer a needlestick injury experience great anxiety. They may need counselling to allay their fears following such an incident.

Good Practice when Sharps are Found

Removal of sharps discarded in the community

Regular users of sharps (e.g. diabetics) are advised on safe means of disposal of their used equipment. They may have a sharps container with arrangements for its disposal or have a device capable of blunting the sharp, making it safe for

disposal within the domestic waste system.

To protect public health, systems are required to ensure the safe and efficient removal of discarded sharps found within the community. These need to protect both employees involved in clean up operations and any member of the public who may discover such items.

Collection of discarded sharps

Employees should be trained in safe procedures, including the safe and correct use of equipment such as sharps containers and remote pickers

Sharps must not be handled directly (even when heavy duty gloves are worn)

Sharps should always be removed and deposited in a suitable storage container using remote pickers or similar type equipment.

A record should be kept of the location and numbers of sharps collected

Following an appropriate occupational risk assessment, employees at risk from needlestick injury may be offered immunisation for hepatitis B and tetanus

Storage and disposal of discarded sharps

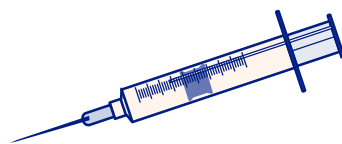
Collected sharps should be stored in containers complying with UN:3291. Where the incidence of discarded sharps is infrequent, compliant single use containers may be more appropriate

The containers should be of adequate size and be able to accommodate all types and sizes of sharps

Containers should be sealed when 3/4 full

Makeshift containers such as drink cans and coffee jars should not be used

Containers should be labelled with a point of origin before being sent for disposal by an approved process.



Floods



In the event of flooding affecting a local area, Environmental Health Officers may be asked for advice on public health risks associated with homes and other property. In giving this they should liaise closely with Public Health Protection staff and those of the water providers and the Auckland Regional Council.

Health Risks

Floodwater may be contaminated with sewage and other pollutants. There is a theoretical risk of infection from pathogenic gastro-intestinal bacteria and viruses such as *Campylobacter*, *Salmonella* and *Hepatitis A*. It is important to follow effective cleaning procedures, particularly in households with vulnerable individuals such as babies and the elderly. Any contamination will, however, be highly diluted in most cases and present low risk to health. If residents experience any health problems they should contact their General Medical Practitioner. This stressful situation may give rise to anxiety or other symptoms.

Advice that should be given to the public includes:

Personal hygiene/safety

- ▶ Don't drink tap water until advised it is safe to do so
- ▶ Don't use any electrical appliance that has been in contact with water until checked by a competent electrician
- ▶ Wear rubber gloves and protective clothing during the clean-up, covering open cuts and wounds on exposed skin with waterproof plasters
- ▶ Wash hands after contact with flood water, silt etc.

Food

- ▶ Dispose of any flood damaged food, including cans
- ▶ Don't eat garden vegetables covered by floodwater. Leave undamaged vegetables in the ground for at least three weeks and only use after thorough washing and cooking

- ▶ All surfaces, including work ones and storage areas including refrigerators, must be thoroughly cleaned and disinfected.

Cleaning the house/property

- ▶ Remove all dirty water and silt from the property, including from the subfloor/basement (this may require pumping out)
- ▶ Remove all soft furnishings and fittings that are damaged beyond repair
- ▶ Wash down all hard surfaces with detergent and hot water several times until visually clean and dry thoroughly. Using a domestic disinfectant is an additional option after cleaning.
- ▶ Allow to dry thoroughly - heating and ventilation will speed the process. This will help to destroy any germs still present
- ▶ Clothing, bedding, fabrics, soft toys etc. should be laundered at 60°C or above to destroy any pathogenic bacteria. Otherwise these will need to be professionally cleaned or destroyed
- ▶ Areas below floors etc. may omit odours but not necessarily present a health risk
- ▶ As the property dries out any loose material or dust should be cleaned/vacuumed regularly
- ▶ Areas of mould can be treated with DIY fungicidal products.

Resuming occupation

- ▶ Check for structural and other damage and if necessary seek advice from insurers, builder or building inspector
- ▶ Do not re-occupy until the cleaning has been completed fully
- ▶ Ventilate the house as much as possible, especially the sub-floor area
- ▶ After about six months check timbers for rot or shrinkage.

Alternative Cleaners in Early Childhood Centres

The use of quaternary ammonium compounds, such as benzyl ammonium chloride, is well established in the cleaning industry. Some cleaning companies would like to move away from chlorine based cleaners.

While cleaning methods themselves are important they will not remove all potentially disease-causing organisms. Disinfection is necessary, particularly in areas where there may be spills of blood, vomit or faeces. Non-chlorine disinfectants have been demonstrated to have limitations. The antiseptic properties of quaternary ammonium compounds have been found to be restricted and there are problems when mixed with other solutions. While potassium monoperoxy-sulphate (*Virkon*) is promising, organic matter inactivates it. Hypochlorite preparations have been well studied, are easy to use and inexpensive.

The alternatives open to early childhood centre operators are:

- ▶ Use alternative products in all areas, based on

manufacturers' information, with adaptation of cleaning techniques

- ▶ Use alternative cleaners in general areas and hypochlorite for high-risk (nappy changing and toilet) areas (preceded by effective cleaning)
- ▶ Continue using hypochlorite in all areas preceded by effective cleaning.

However the Ministry of Health's *Nga Kupu Oranga, Health Messages 1997* identifies sodium hypochlorite (household bleach) as the preferred disinfectant. It is not mandatory to follow this document, but its recommendations cannot be ignored lightly.

Nga Kupu Oranga does not advocate any specific cleaning agent but does recommend the use of hypochlorite for disinfection, particularly in high-risk areas.

If suitable alternative disinfectants are identified we will advise early childhood centres.

Rats



Rats will live in the same habitat as man and can be responsible for food spoilage and extensive structural damage to property. They come out at night, spending the day in their nests. While making their shelter, usually near food, they can travel considerable distances searching for nourishment, invariably following definite runs. The gnawing of various materials in search of food keeps their incisor teeth sharp.

Rats can burrow into the earth to make a nest, gaining entrance through a 1.25cm opening, can reach up to 45cm and jump 60-90cm. They can live both inside buildings and outdoors and may be found in areas such as sewers, railway embankments and landfill sites. The life span of a rat is 9-18 months with breeding beginning at three months for a pregnancy of 21 days and an average litter of seven.

In addition to causing disease, rats can contaminate large quantities of stored foods such as grain. In the domestic setting stored food will be made unusable by contamination with urine or droppings. Their gnawing of woodwork, electric cables, water pipes, wallpaper and other building materials can cause considerable damage.

Health Risks

Worldwide, a number of organisms and diseases are spread either by rats themselves or via parasites such as fleas. These include plague, rat bite fever, leptospirosis, Q fever, listeriosis, Lyme Disease, yersinia enterocolitica, pasteurilla, hantaan virus, viral haemorrhagic fevers, toxoplasmosis and flea borne (murine) typhus. In New Zealand the diseases of public health significance associated with rats are leptospirosis and, possibly, murine typhus.

In addition to the illnesses associated specifically with rats, disease-causing organisms can be carried on the fur of a rat with the possibility of food or water contamination. Rat's

droppings can pollute food or water.

Prevention and Control

Rats like all rodents, require an adequate supply of food, water and shelter, therefore control measures should centre around the removal of these life support elements. Specific initiatives include:

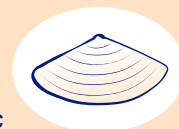
- ▶ Removal of possible food supplies and use of rat proof containers
- ▶ Rat proofing of buildings to prevent access
- ▶ Proactive baiting programmes to control rat populations in sewers, landfills and other potential habitats.

Where an infestation is identified a range of curative measure may be considered including gassing, trapping, fumigation and poisoning. Poisons include anti-coagulants, which may be used in single or multi-dose form. Trapping is useful for smaller infestations and gassing is effective outdoors when used in burrows.

Current Notes

Paralytic Shellfish Poisoning

Since late May there have been raised levels of *Gymnodinium catenatum* in the West Coast waters of the region. This had led to the build up of toxin in shellfish that could cause paralytic shellfish poisoning if consumed. In co-operation with local authorities, marae, shellfish farmers and others we have been informing the public by notices and via the media that no shellfish should be gathered or eaten from west coast waters. This advice will stay in place until the levels return below health risk values.



Mosquito Surveillance in Schools

There have been a number of incursions of mosquitoes into New Zealand over the last seven years with the most recent affecting Gisborne and Hawkes Bay regions. To help the regional surveillance of exotic mosquitoes, Public Health Protection has set up a monitoring project within schools. This will educate students on the biology of mosquitoes, and the need and procedures for monitoring. It has commenced in the south Manauka area. It is hoped to move the trapping area wider next year.



Emma York



Emma York, is a Health Protection Officer with Public Health Protection's Environmental Health Team. She graduated from Leeds Metropolitan University in the United Kingdom in 1995. Whilst in the U.K. she worked in a cross section of Environmental Health activities including communicable disease, environmental noise, food safety and health and safety. Emma has also worked in the field of health education and established a food distribution service for the homeless. Since joining the team in January this year, she has been involved in environmental noise and recreational water issues.