

Medical Officer of Health Environmental Health ADVICE

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Introduction

This issue focuses on preventing the transmission of Cryptosporidiosis and Legionellosis. Cryptosporidiosis is a common parasitic infection in New Zealand. Children are particularly susceptible to catching this disease. There has been a dramatic increase in the number of cases notified to Public Health Protection, Auckland District Health Board since February 2001. In this issue we provide advice on how to avoid catching and spreading the illness.

Legionellosis is a potentially life threatening illness that can be associated with handling gardening products such as compost and potting mixes. We outline methods to minimise exposure in this edition.

Cryptosporidiosis

Cryptosporidiosis is a common parasitic infection in New Zealand. It usually causes diarrhoea (loose bowel motions), stomach cramps and possibly vomiting. However some people who have the infection may have no symptoms at all. There has been a significant increase in the number of cases of cryptosporidiosis notified to Public Health Protection. During the four month period from January to April 2001, 141 cases of cryptosporidiosis were notified, compared to 20 cases during the same period in 2000. Several outbreaks were identified in March, where cases had a common source of infection, including two outbreaks in childcare centres and one in patrons of a public swimming pool.

The true number of cases of crypto-sporidiosis in the community is likely to be much higher than just the number of cases notified. Not everyone with diarrhoea visits the doctor, not all of those who visit the doctor have a faecal specimen tested in the laboratory for the presence of the parasite, and not all positive tests are notified to Public Health Protection (although this is required by law). This makes it difficult to identify outbreaks linked to a common source of exposure.

How is cryptosporidiosis spread, and who is most at risk?

Cryptosporidiosis is usually spread from person to person. This means, for example that, if someone with cryptosporidiosis does not pay enough attention to personal

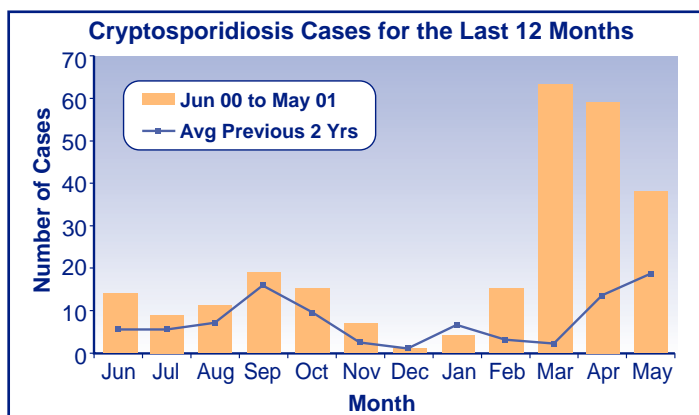
hygiene (especially hand washing after going to the toilet), close contacts may become infected (such as family members, or other children who attend childcare with a case). It takes between 1 to 12 days to become sick after being exposed to cryptosporidiosis. If someone with cryptosporidiosis who has diarrhoea, or has had diarrhoea within the previous two weeks, swims in a swimming pool, other swimmers are at risk of becoming infected.

Apart from person to person spread, other sources of infection can be: contact with infected animals, especially calves and lambs; contaminated water (drinking water or swimming pools); or contaminated food. People most at risk of infection are young children (especially those in nappies or newly toilet trained), farm workers, people who drink untreated water (in New Zealand or while travelling overseas), and close contacts of cases. There is no treatment for cryptosporidiosis, and it usually goes away within 2 to 4 weeks. However, in people who are immunocompromised (have weakened immune systems for fighting infections), such as people who are HIV positive or having cancer treatment, cryptosporidiosis can be life-threatening.

Swimming pools

Outbreaks of cryptosporidiosis have been associated with swimming pools overseas and in New Zealand, where in 1998 there was an outbreak linked to a Lower Hutt swimming pool. Pools can become contaminated with cryptosporidium cysts if swimmers enter the water within two weeks of having had diarrhoea, or if there is a faecal accident in the pool (bowel motion in the water). Unfortunately crypto-sporidium cysts are very resistant to disinfection by chlorine, which is the most common chemical used to disinfect pool water. A fine pool filter can remove cysts, but this may take some hours or days after a contamination event such as a faecal accident.

The best way to control cryptosporidiosis linked to swimming pool use is to keep swimmers out of the water if they have had diarrhoea within the previous two weeks. In addition pool operators need to follow guidelines on how to minimise the risk of water contamination, including the appropriate actions to take when faecal accidents occur. If people remain in the water after a faecal accident or an accident goes



undetected cryptosporidiosis can be transmitted to anyone in the vicinity who puts their head under water. Regular sampling of pool water for cryptosporidium cysts has only a limited role in investigations at present as the tests available are expensive, time-consuming and do not show whether any cysts found are infectious or not. However regular monitoring of pool water quality (microbiological indicator testing) and chlorine levels is recommended to prevent other water-borne illnesses.

Childcare centres

As mentioned above, young children are at greater risk of being infected with cryptosporidiosis. In a childcare centre, there may be many young children in close contact with each other, some still in nappies or being toilet trained. Children need very close supervision and assistance with personal hygiene especially hand washing. Frequent and thorough hand washing by children and staff, using warm running water and soap, is probably the single most important action which can be taken to prevent the spread of cryptosporidiosis (as well as other infectious illnesses), and should be routine before meals and after toileting. Drying hands thoroughly on a disposable paper towel is just as important as washing them. A nappy changing policy, cleaning schedule, and food safety policy are also very important in the childcare centre setting.

Key points in the prevention of cryptosporidiosis

Recommended actions to avoid infection:

- ▶ Practice good personal hygiene always: wash and dry hands thoroughly after going to the toilet, before eating, before cooking or handling food, after handling pets or farm animals, after blowing the nose. Make sure children do the same - supervise and help them.
- ▶ Children should always swim in tight fitting togs or swim pants, not nappies. However, togs will not actually stop germs from getting into the water if the child has an accident. To decrease the chance of accidents happening in the pool, make sure they go to the toilet just before swimming, and at regular intervals while at the pool - remind and supervise them.
- ▶ If at all possible, shower yourself and your children before putting on your togs. Use soap and warm water, especially in the anal area (bottom).
- ▶ If you become aware of a faecal accident in the pool, get out of the pool (and get children out) and tell the pool staff immediately. Don't get back into the water until the pool staff says you can.

Recommended actions during a bout of diarrhoea (whatever the cause):

- ▶ Pay extra attention to personal hygiene. Supervise children closely. If possible, use clean paper towels each time to dry your hands, rather than an ordinary towel - this will help prevent other close contacts from getting diarrhoea. Avoid preparing food for others during episodes of diarrhoea.
- ▶ Do not swim in a pool or spa within two weeks of a bout of diarrhoea. The same applies to children.
- ▶ If diarrhoea continues for more than 3 days, go to a doctor and get a faecal sample tested for cryptosporidiosis.
- ▶ People with diarrhoea in high-risk environments or occupations (children who attend childcare, childcare workers, food handlers, residential care workers) may need a clearance faecal sample before returning to childcare or work.

For further information:

- ▶ The Auckland DHB Public Health Protection website: www.akphp.co.nz
- ▶ The quarterly "Advice Publications" are available on the website. In particular: Swimming pools: Environmental Health (EH) Advice 1998 Vol. 1, Issue 4; EH Advice 1999 Vol. 2, Issue 4; Childcare centres: EH Advice 2000 Vol. 3, Issue 2 ('Preventing spread of infection in early childhood centres').
- ▶ The Centers for Disease Control (in the USA) website: www.cdc.gov
- ▶ Contact the Duty Environmental Health Protection Officer, phone (09) 262 1855.

Free Public Health Advice

The Ministry of Health produces a variety of pamphlets and fact sheets on public health issues. These are available free of charge from Public Health Promotion, phone (09) 815 6204.

Topics include:

- ▶ Adolescent Health
- ▶ Child Health and Safety
- ▶ Communicable Diseases and Immunisation
- ▶ Dental Health
- ▶ Environmental Health
- ▶ Food Safety
- ▶ Hearing
- ▶ Maori Health
- ▶ Mental Health
- ▶ Nutrition
- ▶ Pacific People's Health
- ▶ Sexual Health
- ▶ Smokefree
- ▶ Womens Health

Environmental Health

- ▶ Re-painting, lead based paint
- ▶ Lead and lead poisoning
- ▶ Finding a toilet in New Zealand
- ▶ Safe household water
- ▶ Save water and stay healthy
- ▶ Guidelines for the management of lead based paint
- ▶ All about asbestos
- ▶ Removing asbestos from the home
- ▶ Mosquitoes - why we need to clean up our own backyard
- ▶ Agrichemical spraydrift
- ▶ Water collection tanks
- ▶ Water grading
- ▶ Radio frequency fields
- ▶ Noise around the home
- ▶ Secure groundwater bores and wells for safe household water

Short Notes

▶ HealthEd Website

This website has been developed by the Ministry of Health to provide access to health information for the health workforce and the general public. It can be used to search for information about a wide range of health topics from an extensive database of health publications. www.healthed.govt.nz.

▶ HSNO

The Hazardous Substances and New Organisms Act 1996 (HSNO) will apply from 2 July 2001. It will subsequently repeal several acts including the Toxic Substances Act 1979. However there will be a transitional period from commencement during which the Toxic Substances Regulations 1983 will still apply. The transition period will be for a period of three years following up the start up date of the HSNO Act with provision for a two-year extension. More information is available from www.hsno.govt.nz.

▶ Fluoridation Advocate

Nicola Young has recently joined Healthy Environments as the fluoridation advocate. Nicola is a registered nurse and has a Masters degree in Public Health.

The Oral Health Promotion/Fluoride Advocacy position has been created to fulfil the health policy goal of improving and protecting the oral health of the people of Auckland, especially Maori and Pacific peoples, through the use of water fluoridation. Water fluoridation is a public health strategy that improves the oral health of the population.

The Fluoridation Advocacy role aims to promote and protect the fluoridation of reticulated water supplies in the Auckland region. This is achieved through media advocacy, support and information for providers of oral health promotion and well child services, the lobbying of councils, co-ordination of community action through interdisciplinary oral health promotion and fluoridation awareness campaigns.

For further information please contact Nicola Young (09) 262 1855.

Legionellosis and Gardening Products

Legionellosis is caused by exposure to Legionella bacteria. In Auckland over the past six months several cases of Legionellosis were investigated in people who had been exposed to the bacteria after handling compost and potting mixes while gardening at home. Legionellosis is a form of pneumonia ranging from a mild to a severely life threatening illness with an incubation period of 2-10 days. The route of infection is inhalation of aerosols from soil and water containing Legionella organisms.

Compost and potting mixes are two potential sources of infection. Other potential exposures include stagnant water, unused shower roses in bathrooms and domestic hot water supplies. Sources of commercial exposure include air conditioning systems in commercial buildings, in shopping malls and in supermarkets where fruit and vegetables are sprayed by 'mistlers' to present fresh looking fruit and vegetables to consumers.

Proper handling of compost and potting mixes requires the user to reduce exposure from breathing in the bacteria and by keeping an adequate distance between the product so that the organism is not inhaled. Bending over the garden and working close to garden mixes is also likely to increase the hazard of inhaling organisms that may have been disturbed into the environment and be inhaled. Potting mix bags should not be opened in an enclosed space; bags should be opened slowly, away from the face. Potting mixes should be gently damped down before use. Hands should be washed thoroughly after working with soil or potting mix.

People over the age of 40, who may be medically compromised with histories of bronchial infections, are encouraged to wear paper masks to reduce the risk of inhaling these organisms.

Sally Gaw



Sally Gaw is a Scientist in Public Health Protection's Environmental Health Team. Sally graduated from the University of Auckland with a Masters degree in Environmental Science and Chemistry and is currently undertaking her PhD in Environmental Chemistry through the University of Waikato. She has previously worked as a research scientist. The focus of her current research is human exposure to toxic chemicals in residential environments. Sally joined the Environmental Health Team in June 2000. She has been involved in a number of issues including contaminated sites, hazardous substances and the assessment of resource consents. Sally replaces Donald Campbell as editor of the Environmental Health Advice.