

E. coli O157



Protecting the
Children
in Your Care

E. coli O157 can kill

Escherichia coli (*E. coli*) is the name given to a large family of bacteria found in the gut of humans and animals. Most *E. coli* are harmless, but some types, like *E. coli* O157, can cause serious illness in humans, ranging from diarrhoea, to kidney damage, brain disease, and even death. There is no immediate cure for *E. coli* O157 infection. Treatment can only support the patient; it can not kill the *E. coli* O157 bacteria or prevent complications developing.



Young children are most susceptible

Young children are particularly vulnerable to *E. coli* O157 infection. In Ireland between 2004 and 2008, nearly 670 cases of illness were caused by *E. coli* O157 and closely related bacteria. About 34% of these cases were in children under five years of age.

The illness can spread very quickly among children in childcare facilities. Eleven outbreaks have been linked to crèches in recent years, and made 47 people ill.



What are the symptoms?

Symptoms of *E. coli* O157 infection include: bloody diarrhoea and severe stomach cramps. Diarrhoea is the most common symptom, but this can be severe and result in life-threatening complications. In its mildest form, the symptoms clear up in about eight days. Unfortunately, around 9% of infected people develop a serious, life-threatening condition called haemolytic uraemic syndrome (HUS), which is thought to be the major cause of kidney failure. Children are more susceptible to HUS than adults - there is a 15% chance that a child under ten will develop it. Worldwide, about 50% of patients with HUS need dialysis, and 3 to 5% die.

Children are at risk from person-to-person spread of the bacteria

Low infectious dose

Normally, it takes hundreds, if not thousands of bacteria to make someone ill. The problem with *E. coli* O157 is that as few as ten bacteria could make someone ill. So, even a small number of bacteria can cause serious illness, particularly in infants and children.

You have a serious
responsibility to protect
the health of the
children in your care



How is *E. coli* O157 spread?

E. coli O157 can be found in water supplies, on some farm animals and in certain types of food. If a person becomes infected from one of these sources, they can very easily spread the infection to other people. This is because an infected person can shed billions of bacteria during a bout of diarrhoea. Therefore, *E. coli* O157 can spread rapidly through childcare facilities if proper hygiene precautions - like hand washing and cleaning - are not taken.



How you can prevent the spread of E. coli O157 in your childcare facility?

As E. coli O157 infection can spread rapidly from person-to-person, and because young children are at most risk of severe complications, it is vital that you pay attention to food safety and personal hygiene in your childcare facility. As an owner/manager of a childcare facility, you have a serious responsibility to protect the health of children in your care.

There are four crucial areas where you can help prevent the spread of E. coli O157 in your facility:

1. food preparation and storage
2. toilet and hygienic practices
3. avoiding the spread of infection between children
4. using a safe water supply.

Around 9% of cases in Ireland develop HUS - a life threatening condition



1. Food Preparation and Storage

- ✓ If you are preparing food on the premises, you have a legal obligation to:
 - register as a food business with the local environmental health service (contact the local area Health Service Executive office for more information)
 - ensure the person preparing the food is trained in basic food hygiene
 - ensure the kitchen has hygienic procedures based on the principles of HACCP¹.
- ✓ Purchase your ingredients from reputable suppliers, who also operate a HACCP system.
- ✓ Keep the kitchen and equipment clean and in good repair.
- ✓ Cook burgers or minced meat thoroughly, so that the juices run clear; or preferably use a meat thermometer to ensure that the centre of the meat is above 75°C.
- ✓ Prevent cross-contamination of ready-to-eat foods with bacteria from raw meat. Store these foods separately and use separate utensils. Clean equipment and surfaces thoroughly and immediately after preparing raw meat.

2. Toilet and Hygiene Practices

- ✓ Ensure that toilets have adequate supplies of soap, warm water and disposable paper towels.
- ✓ Always wash your hands in warm soapy water before and after preparing food, after changing nappies, and after going to the toilet.
- ✓ Teach children to wash their hands after using the toilet, before eating, and after direct contact with animals. This should be supervised.
- ✓ Dispose of soiled nappies, wipes and gloves hygienically.

¹ The Food Safety Authority of Ireland (FSAI) has produced a 'Safe Catering Pack' to help food businesses implement HACCP. The pack costs €60 and can be purchased by contacting the FSAI's advice line on 1890 33 66 77 or email info@fsai.ie

3. Avoid the Spread of Infection between Children

- ✓ Keep children who are suffering from sickness and/or diarrhoea away from the childcare facility until they show no signs of illness.
- ✓ If a child has vomited or suffered a bout of diarrhoea in the childcare facility:
 - attend to the sick child immediately. Wash their face and hands. Remove soiled clothes and place in sealed bag for washing at home
 - ensure that the soiled area is cleaned and disinfected as soon as possible - and that the person who cleans up, washes their hands afterwards
 - keep the other children away from the soiled area until it has been cleaned and disinfected
 - ask the sick child's parents/guardians to collect them as soon as possible.



4. Safe Water Supply

- ✓ If your childcare facility is served by a private drinking water supply, or a group water scheme, you should ensure that the water is safe and that it complies with European drinking water standards. Contact the operators of the water supply for further information.
- ✓ For a private water supply, make arrangements to have the water tested for bacteria. Contact your local authority for advice.
- ✓ If there is a microbiological problem with the water, it should be boiled and cooled before it is used for drinking, or for preparing food.

Remember: you can contact your environmental health officer for more advice about the hygiene precautions you should take in your particular childcare facility.



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