

# Germs that cause diarrhoea



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## Germs that cause diarrhoea

Diarrhoea is a big problem for people and dogs in many communities.

Most diarrhoea that people in communities get will be from other people and not from dogs.

Most diarrhoea that dogs in communities get will also be from other dogs, and not from people.

But some of the germs that give people diarrhoea can also be found in animals.

These are called zoonotic<sup>1</sup> diarrhoea germs.

Viruses, bacteria and protozoa can all cause diarrhoea.

This chapter focuses on diarrhoea caused by bacteria and protozoa.

Parasitic worms can also cause diarrhoea – more information on worms can be found in the next chapter.

An important part of your job as an EHP is to look at all the places diarrhoea germs might be found.

Dogs can be a reservoir of infection for some diarrhoea germs that can make people sick.

## Diarrhoea germs that dogs and people can share

Vets, health clinics, Universities and EHPs are always doing research to work out what diarrhoea germs can spread between dogs and people. We are finding out new information all the time!

At this stage we have seen examples of a number of bacteria and protozoa being passed between pets and people, causing diarrhoea.



Some of the diarrhoea causing germs that can pass from animals are listed below:

### *Salmonella* species

*Salmonella* is a type of bacteria which has many different strains.

It breeds in the gut of people and animals.

*Salmonella* is a common cause of diarrhoea in people.

Bad infections can cause serious illness or even death.

### HOW DO PEOPLE AND PETS GET *SALMONELLA*?

People and pets can get *Salmonella* from:

- Meat that is not well cooked.

Some meat is more likely to have *Salmonella* in it.

*Salmonella* can be found in meat from kangaroos, birds and reptiles like snakes, turtle and goanna.

These meats need to be cooked on high heat and all the way through.

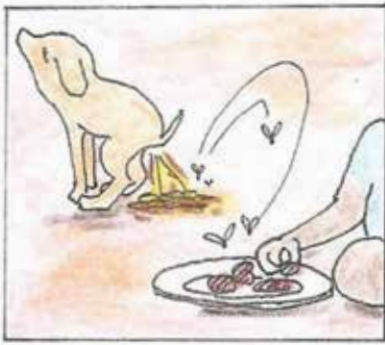
- Meat that is not kept safe

*Salmonella* can get onto meat from people's hands, flies and cockroaches or from dog's tongues.

<sup>1</sup> 'Zoonotic' means a type of disease that passes from animals to people.

Once it's on meat, *Salmonella* can breed up if the meat is left in the warm air for too long.

To stop *Salmonella* from breeding up, meat should be cooked straight away or kept in the fridge.



- **Rotten rubbish in bins or on the ground**

*Salmonella* breeds up in rotting food or meat. The bacteria can then be spread from the rubbish to food and mouths by cockroaches, flies or animals.

- **Vomit or faeces from people or animals that have *Salmonella* in their gut**

If a person or pet is sick from *Salmonella*, their vomit and diarrhoea will have millions of bacteria in it.

These bacteria can build up in yard and around toilet areas.

- **Birds and reptiles**

Birds and reptiles like snakes, turtles and goannas often carry *Salmonella* on their skin.

The *Salmonella* doesn't make the birds or reptiles sick but it can still be passed to people and dogs.

To make sure people do not get *Salmonella* from birds and reptiles, they should:

- cook these animals very well
- wash their hands after handling these animals.

## PREVENTING SALMONELLA

EHPs and animal owners can stop their pets being a reservoir of *Salmonella* infection by making sure:

- pet dog and cat immune systems are strong, by feeding well and worming regularly
- pets cannot eat human faeces
- pets have fresh food and water, and are not eating rotten food or carcasses
- people wash their hands after handling animals or faeces



## *Campylobacter* species.

*Campylobacter* are bacteria that can cause diarrhoea in people and animals.

It is a common cause of diarrhoea in children in communities.

Bad infections can cause serious illness or even death.

Many *Campylobacter* infections are from

animals and people eating contaminated food. But *Campylobacter* can also spread directly from pets to people.

Healthy animals can carry *Campylobacter* bacteria. In one study, *Campylobacter* was found in 50% of healthy dogs and cats sampled<sup>2</sup>.

*Campylobacter* is usually found in puppies and kittens, rather than adult animals.

It is also more common in animals and people with a weak immune system.

## HOW DO PEOPLE AND PETS GET *CAMPYLOBACTER*?

People and pets can get *Campylobacter* from:

- **Meat that is undercooked.**

Chicken is a very common source of *Campylobacter*, but any carcass that is contaminated with faeces at slaughter can be a source of *Campylobacter*.

All meat should be cooked on high heat and all the way through.

- **Vomit or faeces from people or animals that have *Campylobacter* in their gut**

If a person or pet is sick from *Campylobacter*, their vomit and diarrhoea will have millions of bacteria in it.

These bacteria can build up in yards and around toilet areas.

## PREVENTING *CAMPYLOBACTER*

EHPs and animal owners can stop their pets being a reservoir of *Campylobacter* infection by making sure:

- pet dog and cat immune systems are strong, by feeding well and worming regularly
- pets cannot eat human faeces
- pets have fresh food and water, and are not eating rotten food or carcasses
- people wash their hands after handling animals or faeces
- animals that are going to be eaten are slaughtered with good hygiene so that faeces doesn't contaminate the meat

## *Giardia* species

*Giardia* are protozoan germs that can cause diarrhoea, gut cramps, weight loss and stunted growth in both people and animals<sup>3</sup>.

Bad infections can cause serious illness or even death.

*Giardia* is a common cause of diarrhoea in children in communities.

*Giardia* can be in the gut of people or dogs and cats without making them sick, especially if they have a strong immune system.

If a person or dog has a weak immune system, *Giardia* can make them very sick.

## HOW DO PEOPLE AND PETS GET *GIARDIA*?

People and pets can get *Giardia* from:

- **Drinking dirty water**

*Giardia* can live in water supplies, especially if they are not good quality.

*Giardia* can also live in wet or swampy areas in yards.

<sup>2</sup> Damborg et al. 2016

<sup>3</sup> Carlyse et al. 2008



- Faeces from people or animals that have *Giardia* in their gut

If a person or pet is sick from *Giardia*, their diarrhoea will have lots of the protozoa in it.

These protozoa can build up in yards and around toilet areas.

## PREVENTING *GIARDIA*

EHPs and animal owners can stop their pets being a reservoir of *Giardia* infection by making sure:

- pet dog and cat immune systems are strong, by feeding well and worming regularly
- pets cannot eat human faeces
- pets have clean and fresh water
- people wash their hands after handling animals or faeces
- people keep their yard clean and fix broken plumbing or leaky taps

## *Cryptosporidium* species

*Cryptosporidium* species are protozoan germs that can cause diarrhoea, vomiting and gut cramps in both people and animals<sup>4</sup>.

Bad infections can cause serious illness or even death.

*Cryptosporidium* can be in the gut of people or dogs and cats without making them sick, especially if they have a strong immune system.

If a person or dog has a weak immune system, *Cryptosporidium* can make them very sick.

## HOW DO PEOPLE AND PETS GET *CRYPTOSPORIDIUM*?

People and pets can get *Cryptosporidium* from:

- Drinking dirty water

*Cryptosporidium* can live in water supplies, especially if they are not good quality.

*Cryptosporidium* can also live in wet or swampy areas in yards.

- Getting *Cryptosporidium* germs in their mouths

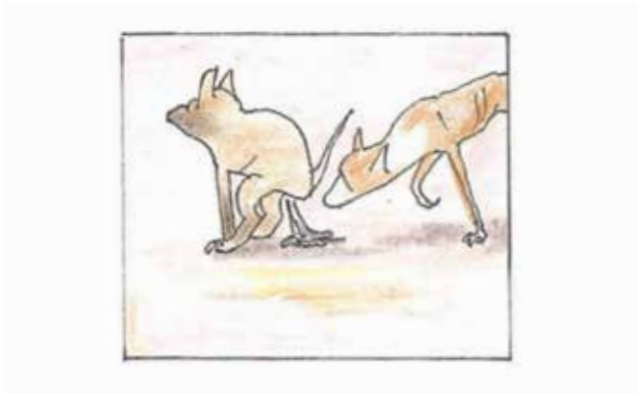
As well as in water, *Cryptosporidium* can be found in soil, food or surfaces that have been in contact with faeces from an infected animal or person.

Raw fruit and vegetables can even have *Cryptosporidium* on their surface.

- Faeces from people or animals that have *Cryptosporidium* in their gut

If a person or pet is sick from *Cryptosporidium*, their diarrhoea will have lots of the protozoa in it.

<sup>4</sup> Carlisle et al. 2008



These protozoa can build up in yards and around toilet areas.

## PREVENTING *CRYPTOSPORIDIUM*

EHPs and animal owners can stop their pets being a reservoir of *Cryptosporidium* infection by making sure:

- pet dog and cat immune systems are strong, by feeding well and worming regularly
- pets cannot eat human faeces
- pets have clean and fresh water



- people wash their hands after handling animals or faeces
- people keep their yard clean and fix broken plumbing or leaky taps
- people wash raw fruit and vegetable before they eat them

There may also be more diarrhoea germs that people and dogs share; more research is needed.

## Testing for diarrhoea germs

To know what germ is causing diarrhoea in people or dogs a fresh sample of faeces can be sent into the lab in town.

In the lab they do lots of tests on the faeces. They might look at the faeces under a microscope, grow the bacteria on a culture plate, or use genetic testing to work out which germ is causing the diarrhoea.

In many communities it can be hard to get these fresh samples sent into town. Clinics often treat diarrhoea in people without finding out what germ is the cause.

Because lab testing costs money, vets and EHPs running animal health and management programs almost never send faecal samples to the lab for dog diarrhoea.

This means we often do not know what is causing the diarrhoea in dogs or in people.

You can talk to AMRRIC, your clinics and vets if diarrhoea is a problem in your community and you want to learn more about which germ might be causing it.

## Working with the clinic

Some EHPs attend monthly meetings with the health clinic.



In these meetings the EHP can find out what germs are causing diarrhoea in people in their community.

If the clinic is seeing a lot of Salmonella, Campylobacter, Giardia or Cryptosporidium the EHP should think about pets too.

### As the EHP, you can make a difference by:

- Raising awareness in the community about pets sharing diarrhoea germs with people.
- Reminding dog and cat owners that all diarrhoea and nappies need to be picked up and kept away from their pets.
- Working with the vet to test dog or cat poo to see if they are carrying the same diarrhoea germs as people.
- Working with the health clinic to trace some of the sources of the diarrhoea germs.

Clinic staff are not allowed to talk to the EHP or the vet about people they are treating, so if the EHP and vet want to do some tracing of diarrhoea, the clinic patients will need to sign a form to give the clinic their permission to allow the EHP and vet to be involved.

If it is a child with diarrhoea, the child's parent or guardian will need to sign a form to allow the EHP to see the child's file.

On the next page, you can find a poster about stopping diarrhoea germs spreading between dogs and people. You can print this poster out and put up copies in your community.

### STOPPING DOGS AND PEOPLE SHARING DIARRHOEA GERMS



Don't let pups and dogs lick children's faces.



Stop dogs eating food from people's bowls.



Fix broken plumbing.  
Give dogs their own clean water.



Pick up all dog and human faeces.  
Put it in the bin where flies can't get it.



Wash hands with soap after playing in the dirt or with dogs.