

It's the small things in life: Chicken and *Campylobacter*

Teacher notes

Introduction

Many thousands of people get infected with *Campylobacter* every year in the UK, and all over the world – and it makes them feel very ill. For most people the infection doesn't last long, but for some people it is fatal.

Most *Campylobacter* infections (caused by *Campylobacter jejuni* and *Campylobacter coli* specifically) in the UK come from contaminated poultry. The Food Standards Agency (FSA) has created an infographic that explains *Campylobacter* infections and how to avoid them. You can download this infographic from <http://www.food.gov.uk/sites/default/files/campylobacter-infographic.pdf>. Students will need to look closely at it, so either print out sufficient copies at a good size or display it on screen.

Learning objectives

Be able to describe communicable diseases and how communicable diseases caused by bacteria are spread in animals.

Understand how to prepare chicken without risking the spread of *Campylobacter*.

Communicate these concepts by preparing a video shooting script, a poster or a leaflet.

Activities

There are three activities suggested on the student activity sheet:

1. Ask students to summarise the contents of the FSA infographic. They can do this in various ways: for example a bulleted list, table or mind map. Students should be able to extract at least 30 points, almost all of which are directly relevant to the work they will be doing on the spread of communicable diseases, and which can be used as examples in discussion or for a piece of homework.
2. Ask students to plan a video clip, a poster or a simple leaflet that could be sent home with every student in the school to raise awareness of the need to handle and cook chicken with care. Alternatively they could write a newspaper or magazine article or a scientific report. Ask students to highlight aspects of the content that would help them as an individual or other students revise their work on communicable diseases.
3. The final activity involves planning and carrying out a survey to discover how much chicken the students and their families eat, and the suspected incidence of *Campylobacter* infections – remind them that not all 'tummy bugs' are caused by *Campylobacter*, and that data reported from memory are not reliable, so this is a very rough estimate. The activity will provide students with practice in collecting and manipulating data, and offers an opportunity to revise concepts like mean, range, and outliers (e.g. vegetarians).

Related videos are available on The Crunch website, thecrunch.wellcome.ac.uk/schools: two interviews with a scientist working on the origins of *Campylobacter* in chickens, called 'The farm story' and 'The lab story', plus 'The truth about *Campylobacter*' (FSA, 4 min) and 'Another case of poisoning' (Ministry of Health, 1949, 14 min).



Research background

Conlan AJK, Coward C, Grant AJ, Maskell DJ, Gog JR. *Campylobacter jejuni* colonization and transmission in broiler chickens: a modelling perspective. *J. R. Soc. Interface* 4 2007; 819–829. e0118785. DOI: 10.1098/rsif.2007.1015 (<http://rsif.royalsocietypublishing.org/content/4/16/819>)

Salmonella in livestock production in Great Britain 2013:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/348957/pub-salm13-intro.pdf

Up to one third of people at risk from *Campylobacter* food poisoning during their lifetime:

<http://www.food.gov.uk/news-updates/news/2015/13970/up-to-one-third-of-people-at-risk-from-campylobacter-food-poisoning-during-their-lifetime>