

Straight talk about antibiotic use in food animal production presented by ALPHARMA Inc., Animal Health

CONFUSED ON ANTIBIOTICS? YOU'RE IN GOOD COMPANY

When Sen. Edward Kennedy, D-Mass., and Sen. Olympia Snowe, R-Maine, [introduced their bill](#) in this Congress that would ban most practical uses of antibiotics to prevent diseases in food animals, they argued, "...many scientific studies

confirm ... nontherapeutic use of antibiotics in agricultural animals contributes to ... antibiotic-resistant bacterial infections in people...."

Well, no, Senators.

The mistake here is an oft-committed one by people — reasonable nevertheless — who may unfortunately have failed to pay attention in freshman science class: Correlation does not equal causation.

It's a theme throughout the antibiotics debate just reiterated again in a [recent review](#) by German molecular microbiologist Trudy Wassenaar, in the journal *Critical Reviews in Microbiology*.

To understand both the negative — and the positive — effects of antibiotics in animals, Wassenaar writes, it's not good enough to look just at the circumstantial evidence of how such usage can cause germs in animals to become resistant to antibiotics, how those resistant bacteria can enter the food chain, and whether they're then a health threat to people. It's essential to also consider the numerous other routes which lead to resistant bacteria, particularly inefficient or over-use of antibiotics by people themselves.

Although some reports have suggested links, the truth is no untreatable human food poisoning cases have been confirmed to have been caused by antibiotics in animals that produced that food.

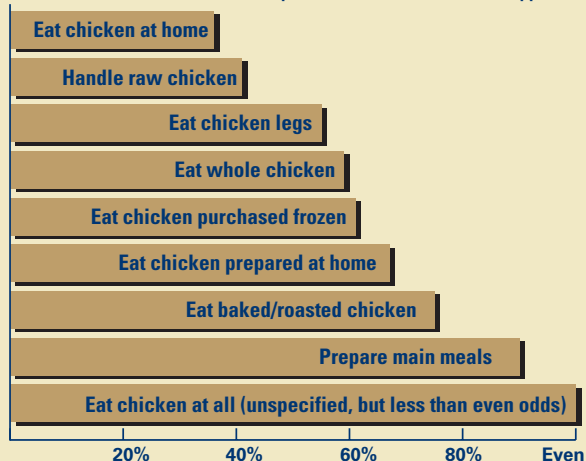
Case in point: Chicken and *Campylobacter*

Secret packing-plant videotaping and sensationalized media reports have conditioned today's consumers to believe eating chicken puts them at a high risk for food poisoning, particularly from *Campylobacter*. Yet a 2001 study that backtracked the chicken-consumption patterns of *Campylobacter*-infected patients in the United States, New Zealand, Denmark and the United Kingdom discovered that eating or handling chicken actually *reduced* the odds of suffering the condition.

Why does chicken get such criticism, then? It's a classic case of mistaking correlation with causation: Most studies blaming chicken as a risk factor failed to consider where the chicken was prepared and eaten — eating outside the home has regularly been associated with higher risks of cross contamination, inadequate cooking and mishandling vs. eating at home, all important factors in assigning relative food-poisoning risks. Once researchers control for venue, the type of food becomes coincidental.

Consumption patterns shown to reduce risk of food poisoning

Bars show the relative likelihood compared to someone who did the opposite



Source: Neimann J. The epidemiology of sporadic campylobacteriosis in Denmark investigated by a case-control study and strain characterization of patient isolates. Ph.D. thesis, 2001. The Royal Veterinary and Agricultural University, Copenhagen, Denmark.

Spot weak science

- Has the study been reviewed by other scientists, or just taken directly to the media?
- Does the source claim a powerful establishment or industry is suppressing his work?
- Is the scientific effect barely detectable?
- Is evidence anecdotal?
- Is credibility claimed only because something is centuries old?
- Was the research done in isolation?
- Can the observation be explained only by changing natural law?

Source: Robert L. Park, University of Maryland professor of physics and author of *Voodoo Science*.

Antibiotics prevent animal disease and improve meat, milk and egg production. These important, safe and proven tools remain absolutely necessary to meet the world's growing demand for affordable protein. ALPHARMA Inc., Animal Health sponsors this educational series to provide facts to help set the record straight. Comment or questions? E-mail [Steve Kopperud](mailto:Steve.Kopperud@poldir.com) at skopperud@poldir.com or editor [Mike Smith](mailto:Mike.Smith@CustomMedia@Food360.com) at CustomMedia@Food360.com.
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