



How to keep bacteria off the menu

Food safety is a year-round concern, but the incidence of foodborne illness increases during the hot summer months. Most people would rather not think about live microorganisms that may be growing in their food. But knowing how bacteria get into food and how to prevent these bacteria from getting out of control may save lives.

Almost everyone consumes foods daily that contain some problematic bacteria, but at levels too low to cause illness. Many types of uninvited bacteria that grow in foods can be dangerous enough to cause serious illness or even death.

Question: Are all bacteria in food harmful?

Answer: No. Microorganisms in foods can also be beneficial. Yogurt that contains live culture has a type of "friendly" bacteria that can prevent the growth of harmful bacteria. These bacteria make yogurt safer than uncultured milk.

Q: How do foodborne microorganisms make us sick?

A: Some bacteria cause illness by growing into large

numbers, infecting the intestine and irritating the lining of the intestinal tract. Even more serious, some bacteria manage to get through the intestinal walls and into the blood.

Other bacteria produce powerful, poisonous toxins. The *Clostridium botulinum* bacteria toxin causes paralysis. Even rather small amounts of botulinum toxin can kill an adult. The well-known "botox" treatments use this toxin in extremely tiny amounts to temporarily paralyze facial muscles and reduce wrinkles.

Botulinum grows dangerously well in low-oxygen environments, including improperly canned foods and improperly processed herbal oils.

Q: How do disease-causing bacteria get into foods?

A: Harmful microorganisms are widespread in the environment, making food contamination relatively common. Contamination most commonly occurs when food handlers don't use proper hygiene. A good rule of thumb is to wash your hands with soap and water for 20 sec-

onds before preparing any foods.

Cross-contamination, when one food is contaminated by another, can be as simple as using a knife to cut raw chicken and then using the same knife on a melon without first cleaning the knife.

Q: What conditions support bacterial growth in foods?

A: Most bacteria require protein and moisture to grow, and flourish between 40 and 140 degrees -- often called the "danger zone." Foods high in salt, sugar or acids such as vinegar or lemon juice do not support the bacterial growth.

Q: How can foods be kept safe?

A: The most basic food safety rules are: 1) Wash your hands. 2) Keep cold foods cold and hot foods hot and out of the danger zone. For picnics, plan ahead to have plenty of coolers and ice and to serve cooked foods promptly if they can't be kept hot. For a great list of food-specific guidelines, see: www.ctahr.hawaii.edu/NEW/foodsafety.htm.

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