

News from the watershed

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Keeping bacteria out of the kitchen

Almost everyone has heard of the frightful bacteria *E. coli*. It's name alone can send chills down the spine and conjure up images of long sleepless nights spent fighting the terrible bouts of food poisoning.

Food-borne illnesses afflict at least 6 million Americans annually, causing at least 9,000 deaths and \$4 billion to \$6 billion in medical costs and other expenses. Home kitchens are a common source of contamination, as pathogens from uncooked eggs, meat and vegetables find their way onto countertops, utensils and cleaning tools.

One of the biggest culprits harboring bacteria is the kitchen sponge or dishcloth. This is most likely due to the fact that they remain damp which helps the bacteria to survive. A sponge that's been in use for no more than two or three days in a kitchen will harbor millions of bacteria. That's a problem if you pick up a pathogen, like *E. coli* or salmonella on the sponge. Every time you use the sponge to wipe up a surface you are potentially spreading those pathogens.

University of Florida researchers recently addressed this issue in the December issue of the *Journal of Environmental Health*. They investigated disinfecting kitchen sponges in microwave ovens.

The results?

Microwaving kitchen sponges for two minutes will kill 99 percent of all living pathogens.

The heat, rather than the microwave radiation, likely is what proves fatal to the pathogens. Because the microwave works by exciting water molecules, it is better to microwave wet rather than dry sponges or scrub pads.

You should always microwave wet sponges because dry sponges may catch fire. Also, never microwave metallic sponges.

Another tip for keeping harmful bacteria in check is proper hand washing. A study at the University of Utah found that only 34 percent of the subjects washed their hands before cooking, and most failed to use soap. Washing hands in hot soapy water for at least 20 seconds rinses off surface bacteria and makes it difficult for bacteria to cling to skin. You should not only wash your hands before handling food, but also during and after the preparation.

An experiment proved this point. Researchers covered a chicken with a product called Glo Germ, which is invisible in daylight but visible when exposed to ultraviolet light. The chicken was given to a home cook, who was asked to prepare it. By the time the chicken was done the light revealed chicken juices everywhere -- on the counter, in the sink, on cabinet handles, even on the sippy cup of the cook's 2-year-old child.

In recent years, it has become conventional wisdom that plastic cutting boards are safer and easier to clean than wood cutting boards. Even the Food and Drug Administration says that plastic is less likely to harbor bacteria and easier to clean. A study at the University of California, Davis, revealed some interesting information about cutting boards.

Researchers found that cellulose in wood absorbs bacteria but will not release it. They were never able to get the bacteria down in the wood back up on the knife to contaminate food later. Plastic, however, absorbs bacteria in a different way. Bacteria will get down into the cracks left after a knife cuts the plastic surface and hang out there. They may go dormant. Although drying will kill approximately 90 percent of them, the rest could hang around for weeks.

In one test, raw chicken juices were spread on samples of used wood and plastic cutting boards. Both boards were washed in hot soapy water and dried, and then knives were used to simulate cutting vegetables for a salad. No bacteria appeared on the knives cut on wood, but there were plenty on the knives used on a plastic board. Dishwashers must get hotter than 140 degrees in order to kill bacteria on plastic cutting boards.