



Food Safety & Nutrition

Should I be Afraid of Eating Beef?



Sandra Brown

Food Safety and Nutrition Faculty

What's the story with Mad Cow disease?

The first case of BSE found in cattle in Washington has many of us in the Northwest as well as the world concerned once again about the safety of eating beef. So what precautions do we need to take in buying, cooking and eating beef? Do we need to worry? We'll keep reading for some information that may help you make decisions about the beef you may want to purchase and eat.

Meat animals could be infected with many different bacteria and parasites that can be passed to humans. Our best protection against most of these diseases is to cook meat thoroughly. There are no tests that a consumer can use to find out whether meat is "diseased."

The protein that causes Bovine Spongiform Encephalopathy (BSE, sometimes known as Mad Cow Disease) is not destroyed by cooking. Protection is based on cattle producers, feed manufacturers and regulators. Countries that have a much greater number of BSE-infected animals are using a quick screening test for BSE on most cattle. If the US was to use the quick BSE screening test it could cost as high as \$10 billion.

The risks of getting a foodborne illness from bacteria that are on the beef are much greater (maybe thousands of times greater) than risks from other substances such as chemicals or the protein that causes BSE. Getting the human form of BSE from beef is rare. There are some foodborne illnesses that can come from beef (and many other foods), so cooking beef to proper temperatures is the important safety step.

So, you want to buy beef of all kinds, but what would be smart choices given the concern with BSE? Select beef or beef products, such as solid pieces of muscle meat (versus calf brains or beef products such as burgers and sausages), which might have a reduced opportunity for contaminations with tissues that may harbor the BSE agent. Beef cuts such as roasts, steaks and solid pieces of meat that do not contain bone. Ground beef has a slightly greater risk of containing spinal cord tissue, which is the tissue that has the BSE prion protein. If you want ground beef consider purchasing a chuck or round roast and grind your own hamburger or ask the grocery butcher to grind it for you. Or look for ground chuck or ground round. Ground beef including pork sausages needs to be thoroughly cooked to at least 160 degrees F, whether served at home or in a restaurant to kill the E. coli O157:H7 bacteria which can cause serious illness. If you don't order a rare hamburger, there's almost no reason to be concerned about beef served in restaurants.

Studies indicate that milk does not contain the BSE protein. No cases of BSE have ever been linked to transmission by milk.

Some ask if buying organic beef is safer than non-organic beef. There is a very small difference in the safety of organic and non-organic beef. The safety of any food is related to the chances of it carrying pathogens (bacteria and other small living creatures that cause foodborne illness) and the risk that it may have other contaminants such as pesticides and antibiotics.

Although some have proposed that organic beef production practices may result in lower bacterial contamination, a theory that has not been supported by published research studies. So far as chemical contaminants and the BSE protein, the risk that non-organic beef will cause illness is very small but perhaps slightly greater than from organic beef.

Chronic wasting disease is another type of spongiform encephalopathy which affects deer and elk in North America. Creutzfeldt Jakob Disease is a human form of spongiform encephalopathy. CWD and CJD are in the same family of diseases as BSE.

CWD is spreading among game animals in the wild, but it is unknown how the disease is transmitted between animals. We also don't know if CWD may cause a brain disease in humans.

CWD was first recognized in Colorado and Wyoming and has spread from there to the Midwest. Thus far, no cases of CWD have been found elk or deer in Washington state. Also, so far no human illnesses have been linked to eating meat from CWD-infected animals.

Hunters should continue to watch for information about CWD and any precautions that may be advised regarding eating deer and elk meat.

The concern about eating beef that may contain BSE is humans contracting Creutzfeldt-Jakob disease (CJD). There are several forms of CJD. One occurs around the world at a rate of about 1 in every million. These cases are called sporadic CJD and are not thought to be due to any diet or environmental factors. In the U.S., there have been cases of sporadic CJD.

There have been 153 cases of a variant form of CJD (vCJD), which is thought to have been transmitted from BSE infected cattle. 143 of the cases of vCJD occurred in the United Kingdom. One case has been diagnosed in the U.S., in a woman who lived in the UK for a substantial period of time.

For more information about BSE and CJD at the Centers for Disease Control and Prevention web site: www.cdc.gov
