

Salmonella Backgrounder

Egg-associated salmonellosis is an important public health problem in the United States and several European countries. A bacterium, *Salmonella enteritidis*, can be inside perfectly normal-appearing eggs, and if the eggs are eaten raw or undercooked, the bacterium can cause illness. The current epidemic is due to intact and disinfected grade A eggs. The reason for this is that *Salmonella enteritidis* silently infects the ovaries of healthy appearing hens and contaminates the eggs before the shells are formed.

The elderly, infants and those with impaired immune systems may have a more severe illness. In these patients, the infection may spread from the intestines to the blood stream and then to other body sites and can cause death unless the person is treated promptly with antibiotics.

Most types of *Salmonella* live in the intestinal tracts of animals and birds and are transmitted to humans by contaminated animal products. Stringent procedures for cleaning and inspecting eggs were implemented in the 1970s and have made salmonellosis caused by external fecal contamination of egg shells extremely rare. During the 1980s, illness related to contaminated eggs occurred most frequently in the northeastern United States, but now illness caused by *S. enteritidis* is increasing in other parts of the country as well. Consumers should be aware of the disease and learn how to minimize the chances of becoming ill.

Every year, approximately 40,000 cases of salmonellosis are reported in the United States. Because many milder cases are not diagnosed or reported, the actual number of infections may be twenty or more times greater. Salmonellosis is more common in the summer than winter.

S. enteritidis outbreaks continue to occur in the U.S. The CDC estimates that 75% of those outbreaks are associated with the consumption of raw or inadequately cooked Grade A whole shell eggs. The U.S. Department of Agriculture published Regulations on February 16, 1990, in the Federal Register establishing a mandatory testing program for egg-producing breeder flocks and commercial flocks implicated in causing human illnesses. This testing should lead to a reduction in cases of gastroenteritis caused by the consumption of Grade A whole shell eggs.

In 1985, a salmonellosis outbreak involving 16,000 confirmed cases in 6 states was caused by low fat and whole milk from one Chicago dairy. This was the largest outbreak of foodborne salmonellosis in the U.S. FDA inspectors discovered that the pasteurization equipment had been modified to facilitate the running off of raw milk, resulting in the pasteurized milk being contaminated with raw milk under certain conditions. The dairy has subsequently disconnected the cross-linking line. Persons on antibiotic therapy were more apt to be affected in this outbreak.