

Salmonella and Eggs

Karen Pesaresi Penner, Ph.D.
Professor and Specialist, Food Science

Department of Animal Sciences and Industry
Food Science Institute

Why is safety of eggs a concern when we've eaten raw and undercooked eggs in various recipes for years?

Fresh eggs with shells intact were once thought to be sterile inside. Today, scientists know that fresh, unbroken shell eggs may contain the harmful bacteria *Salmonella enteritidis*. Contamination takes place as the egg develops in the oviduct of the hen if the hen is infected with the bacteria.

The number of eggs affected is about one in 20,000, or about 2.7 million eggs annually. There have been scattered outbreaks of foodborne illness due to this organism in the past several years. Fresh, unbroken shell eggs are considered to be one of the growing list of "potentially hazardous foods."

What can you do to avoid illness from *Salmonella enteritidis*?

■ *Buy clean, uncracked Grade A or AA eggs at the store.* Make sure they have been refrigerated. At home, store eggs in the refrigerator. Foods in your refrigerator should be 40°F or slightly below.

■ *Use raw, shell eggs within three to five weeks.* Hard-cooked eggs will keep refrigerated for one week. Use leftover whites and yolks within four days.

■ *Avoid eating raw eggs or foods that contain them.* This includes "health-food" milkshakes with raw eggs, traditional Caesar salad dressing, cookie dough, hollandaise sauce, homemade mayonnaise, and homemade ice cream or eggnog made from recipes in which the raw egg ingredients are not cooked.

■ *Cook eggs well.*

Fried eggs: Cook two to three minutes on each side; four minutes in a covered pan.

Scrambled eggs: Cook until firm throughout.

Poached eggs: Cook five minutes in boiling water.

Soft-cooked eggs: Cook in the shell seven minutes. (Avoid those three-minute eggs completely).

■ *Use updated recipes and preparation methods.* If you are making eggnog, ice cream, or other egg recipes, use commercial pasteurized eggs or egg substitutes in your recipes. Or, use a cooked egg base, such as a cooked custard, when preparing the

mix for homemade ice cream. Egg mixtures are safe if they reach 160°F. Use a thermometer or heat gently until the mixture coats a metal spoon.

Eggnog

- 1 quart milk
- 6 fresh eggs
- ¼ teaspoon salt
- ½ cup sugar
- 1 teaspoon vanilla
- 1 cup whipping cream, whipped
- Ground nutmeg

Heat the milk in a large saucepan, but do not scald. While heating, beat together the eggs and salt in a large bowl, gradually adding the sugar. Gradually add hot milk to the egg mixture.

Pour the mixture back into the saucepan and cook on a medium-low heat while stirring until it is thick enough to coat a spoon. The thermometer should read 160°F. If not, continue heating until that temperature is reached.

Stir in vanilla, and cool quickly by setting the pan in a bowl of ice or cold water and stirring for 10 minutes. Cover and refrigerate until chilled. Before serving, pour it into a bowl and fold in whipped cream. Sprinkle with nutmeg.

Custard-based Ice Cream

- 1 egg, slightly beaten
- 1 cup milk
- 1/2 cup sugar
- 2 cups half and half or cream
- 1 pinch salt
- 1 1/2 teaspoons vanilla

Beat the egg just enough to mix. Add sugar and salt, and stir the milk into the egg mixture. Cook over hot, not boiling, water, stirring constantly until the mixture coats a spoon. Cool. Add the cream and vanilla, and freeze in an ice cream freezer.

What about eating those hard-boiled, dyed Easter eggs?

Hard-boiled eggs that are to be hidden for an egg hunt should not be

out of refrigeration for more than two hours if you intend to eat them later.

Eggs may become cracked and dirty from handling while hiding and collecting.

Since cooking removes some of the protective oil coating that processors spray on the shells, bacteria can enter the egg through the pores or cracks. As a convenient alternative, you may want to use plastic "eggs" for all the hunting activities at your house.

Who should be extra careful to avoid undercooked eggs?

The risk of foodborne illness from eating raw eggs is particularly serious for people who are vulnerable to bacterial infections. These people

include the elderly whose immune systems have weakened with age, infants whose immune systems are not fully developed, chronically ill people with weakened immune systems, and pregnant women because of the risk to the fetus.

Elderly people are 10 times more likely to die of foodborne illnesses than younger adults whether they are caused by Salmonella bacteria or other foodborne pathogens. Of foodborne illnesses in nursing homes that could be traced to specific organisms, Salmonella bacteria, found most often in poultry and eggs, caused 53 percent of the outbreaks and 81 percent of the deaths.

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