Americans – Why Do You Keep Refrigerating Your Eggs?

(Dr. Mercola) If you're an American, you probably store eggs in the refrigerator – and wouldn't think of doing it any other way.

Yet, the US is one of the *only* countries where chicken eggs are kept refrigerated. In much of Europe, for instance, eggs are often stored right on the counter, at room temperature.

But then, US eggs would be *illegal* in Europe due to an egg-washing process that may actually make them *more* susceptible to contamination with bacteria like Salmonella.

In the US, Eggs Are Refrigerated to Help Reduce Salmonella Risks

If an egg is infected with salmonella, the bacteria will multiply more quickly if the egg is stored at room temperature instead of in the refrigerator, particularly if they're stored for longer than 21 days.1 This is why, in the US, public health agencies advise keeping your eggs in the fridge.

And the truth is, the way most eggs are raised in the US – in industrial concentrated animal feeding operations or CAFOs – the risk of salmonella contamination rises.

In CAFOs, egg-laying hens are often crammed into tiny quarters with less space to stand upon than the computer screen you are looking at. Disease is rampant, and the birds ARE filthy – not because of their nature, but because we have removed them from their natural habitat and compromised their innate resistance to disease.

Eggs from such large flocks (30,000 birds or more… and some

actually house*millions* of hens) and eggs from caged hens have many times more salmonella bacteria than eggs from smaller flocks, organically fed and free-ranging flocks.

They're also more likely to be antibiotic-resistant strains, due to the flock's routine exposure to such drugs. It is because of these disease-promoting practices that the US also employs egg washing – a technique that's actually banned in Europe.

Why Are American Eggs Washed, When Egg Washing Is Banned in Much of Europe?

When you have eggs from tens of thousands of chickens – or more – all under one roof, there's a good chance they're going to get feces and other contaminants on them. The US solution, rather than *reducing* the size of the flocks and ensuring better sanitation and access to the outdoors, is to wash the eggs. But this isn't as innocuous as it sounds.

As the eggs are scrubbed, rinsed, dried, and spritzed with a chlorine mist, its protective cuticle may be compromised. This is a natural barrier that comes from the mother hen that lays the egg, and it acts as a shield against bacteria.

It even contains antimicrobial properties. US egg-washing strips this natural protectant from the egg, which may actually make it more likely to become contaminated. According to European Union (EU) guidelines:

"Such damage may favor trans-shell contamination with bacteria and moisture loss and thereby increase the risk to consumers, particularly if subsequent drying and storage conditions are not optimal."

Industrial egg washing, by the way, is banned in much of

Europe, not only because of potential damage to the eggs' cuticles but also because it might allow for more "sloppy" egg-producing practices. The chief executive of Britain's Egg Industry Council told *Forbes*:2

"In Europe, the understanding is that [prohibiting the washing and cleaning of eggs] actually encourages good husbandry on farms. It's in the farmers' best interests then to produce the cleanest eggs possible, as no one is going to buy their eggs if they're dirty."

In the US, of course, you'd have no way of knowing whether your bright-white grocery-store eggs were covered in filth before they arrived in your kitchen. Plus, about 10 percent of US eggs are treated with mineral or vegetable oil, basically as a way to "replace" the protective cuticle that's just been washed off.

Unfortunately, *since an eggshell contains approximately 7,500 pores or openings*, once the natural cuticle has been removed what's put ON your egg goes INTO your egg. Meaning, whatever the eggshell comes into contact with can cross over this semi-permeable membrane and end up in your scrambled eggs, from chlorine to mineral oil to dish soap — to salmonella.

The Other Reason Why the EU Recommends Constant Room Temperature Egg Storage

European egg marketing regulations state that storing eggs in cold storage and then leaving them out at room temperature could lead to condensation, which could promote the growth of bacteria on the shell that could probably get into the egg as well. As *io9* reported, the EU therefore advises storing eggs at a constant non-refrigerated temperature:3

"EU guidelines therefore stipulate that eggs should be

transported and stored at as constant a temperature as possible – a temperature between 66.2 °F and 69.8°F in the winter and between 69.8°F and 73.4°F in the summer."

So, despite what you may have heard, eggs that are fresh and have an intact cuticle do not need to be refrigerated, as long as you are going to consume them within a relatively short period of time.

In the US, refrigeration of eggs became the cultural norm when mass production caused eggs to travel long distances and sit in storage for weeks to months before arriving at your superstore. The general lack of cleanliness of CAFOs has increased the likelihood that your eggs have come into contact with pathogens, amplifying the need for disinfection and refrigeration.

So, IF your eggs are very fresh, and IF their cuticle is intact, you do not have to refrigerate them. According to Hilary Thesmar, director of the American Egg Board's Egg Safety Center:4

"The bottom line is shelf life. The shelf life for an unrefrigerated egg is 7 to 10 days and for refrigerated, it's 30 to 45 days. A good rule of thumb is one day at room temperature is equal to one week under refrigeration."

Eggs purchased from grocery stores are typically already three weeks old, or older. USDA-certified eggs must have a pack date on the carton, and a sell-by date. Realize that the eggs were often laid many days prior to the pack date.

Most grocery-store eggs in the US should not be left unrefrigerated because they've had their cuticles essentially washed off. If your eggs are fresh from the organic farm, with intact cuticles, and will be consumed within a few days, you can simply leave them on the counter or in a cool cupboard.

Are US Organic Eggs Washed?

Organic flocks are typically much smaller than the massive commercial flocks (typically by an order or two of magnitude) where bacteria flourish, which is part of the reason why eggs from truly organic free-range chickens are FAR less likely to contain dangerous bacteria such as salmonella. Their nutrient content is also much higher than commercially raised eggs, which is most likely the result of the differences in diet between organic free ranging, pastured hens and commercially farmed hens.

As far as washing, detergents and other chemicals used for "wet cleaning" organic eggs must either be non-synthetic or among the allowed synthetics on the National List of allowed non-agricultural substances, which can include chlorine, ozone, hydrogen peroxide, vinegar, and others. Some farmers report rinsing eggs very quickly in water, just to dislodge any debris, and believe this is adequate. Others use a dry brushing process – no liquids at all – just a brush, sandpaper, or a loofah sponge.

Since most organic egg producers are typically interested in producing high-quality eggs, many of them—especially small, local farming operations—have implemented gentle washing methods that don't compromise the cuticle. However, you certainly can't tell by looking at them what type of washing process they may have gone through. *The only way to know if your eggs have been washed or oiled (and using what agents) is to ask the producer – and the only way to do that is to buy from small local farmers you have direct contact with.*

Locally Raised Eggs Are Usually Best

The key here is to buy your eggs locally; this is typically

even preferable to organic eggs from the grocery store. About the only time I purchase eggs from the store is when I am travelling or for some reason I miss my local egg pickup. Finding high-quality organic eggs locally is getting easier, as virtually every rural area has individuals with chickens. If you live in an urban area, visiting the local health food stores is typically the quickest route to finding the high-quality local egg sources.

Farmers markets and food coops are another great way to meet the people who produce your food. With face-to-face contact, you can get your questions answered and know exactly what you're buying. Better yet, visit the farm – ask for a tour. If they have nothing to hide, they should be eager to show you their operation.

Eggs ARE a Highly Nutritious Food

The issue of whether or not to refrigerate your eggs becomes a moot point if you've been scared into believing that eggs are bad for your health. I want to address this briefly, as there is a major misconception that you must avoid foods like eggs and saturated fat to protect your heart. Eggs are an incredible source of high-quality protein and fat—nutrients that many are deficient in. And I believe eggs are a nearly ideal fuel source for most of us. The evidence clearly shows that eggs are one of the most healthful foods you can eat, and can actually help prevent disease, including heart disease. For example, previous studies have found that:

- Consumption of more than six eggs per week does not increase the risk of stroke and ischemic stroke5
- Eating two eggs a day does not adversely affect endothelial function (an aggregate measure of cardiac risk) in healthy adults, supporting the view that dietary cholesterol may be less detrimental to cardiovascular health than previously thought6

- Proteins in cooked eggs are converted by gastrointestinal enzymes, producing peptides that act as ACE inhibitors (common prescription medications for lowering blood pressure)7
- A survey of South Carolina adults found no correlation of blood cholesterol levels with “bad” dietary habits, such as use of red meat, animal fats, fried foods, butter, eggs, whole milk, bacon, sausage, and cheese8

As for how to eat your eggs for optimal health, ideally the yolks should be consumed raw, as the heat will damage many of the highly perishable nutrients in the yolk. Additionally, the cholesterol in the yolk can be oxidized with high temperatures, especially when it is in contact with the iron present in the whites and cooked, as in scrambled eggs, and such oxidation contributes to chronic inflammation in your body.

However, if you’re eating raw eggs, they MUST be organic pastured eggs. You do not want to consume conventionally raised eggs raw, as they’re much more likely to be contaminated with pathogens. The next best option to raw is to eat them soft-boiled or gently cooked “sunny side up” with very runny yolks. One final caveat: I would strongly encourage you to avoid all omega-3 eggs, as they typically come from chickens that are fed poor-quality sources of omega-3 fats that are already oxidized. Omega-3 eggs are also more likely to perish faster than non-omega-3 eggs.