## **Rethinking Eggs**

Should you be eating eggs? There are serious health, safety, environmental and ethical issues implicated by the commercial production and consumption of eggs. Dr. Sofia Pineda Ochoa discusses these issues in this short video summary.

- Sources
- Transcript
- Credits

## Video Sources:

• See USDA Guidelines for AMS Oversight of Commodity Research and Promotion Programs, Sept. 2015, Paragraph IX(D), available here (accessed Jan. 19, 2016). See also Section 2706(a) of the 1974 Egg Research and Consumer Information Act, 7 U.S.C. § 2706(a) (2015); and Section 7414(d)(3) of the Commodity Promotion, Research, and Information Act of 1996, 7 U.S.C. § 7414 (d)(3) (2015).

• M. Greger. Who Says Eggs Aren't Healthy or Safe? *NutritionFacts.org*. 2014 Feb. Available here (accessed Jan. 19, 2016).

• HJ Baer, RJ Glynn, FB Hu, SE Hankinson, WC Willett, GA Colditz, M Stampfer and B Rosner. Risk Factors for Mortality in the Nurses' Health Study: A Competing Risks Analysis. *Am J Epidemiol*. 2011 Feb; 173(3): 319–329. Available here (accessed Jan. 19, 2016).

• L Djoussé, JM Gaziano, JE Buring and IM Lee. Egg Consumption and Risk of Type 2 Diabetes in Men and Women. *Diabetes Care*. 2009 Feb; 32(2):295-300. Available here (accessed Jan. 19, 2016).

• JA Nettleton, LM Steffen, LR Loehr, WD Rosamond and AR Folsom. Incident Heart Failure Is Associated with Lower Whole-Grain Intake and Greater High-Fat Dairy and Egg Intake in the Atherosclerosis Risk in Communities (ARIC) Study. J Am Diet Assoc. 2008 Nov; 108(11): 1881–1887. Available here (accessed Jan. 19, 2016).

• L Djoussé and JM Gaziano. Egg Consumption in relation to Cardiovascular Disease and Mortality: the Physicians' Health Study. *Am J Clin Nutr*. 2008 Apr; 87(4):964-9. Available here (accessed Jan. 19, 2016).

• EL Richman, SA Kenfield, MJ Stampfer, EL Giovannucci and JM Chan. Egg, Red Meat, and Poultry Intake and Risk of Lethal Prostate Cancer in the Prostate Specific Antigen-era: Incidence and Survival. *Cancer Prev Res (Phila)*. 2011 Dec; 4(12): 2110–2121. Available here (accessed Jan. 19, 2016).

• JD Spence, DJA Jenkins and J Davignon. Dietary Cholesterol and Egg Yolks: Not for Patients at Risk of Vascular Disease. *Can J Cardiol*. 2010 Nov; 26(9): e336–e339. Available here (accessed Jan. 19, 2016).

• Centers for Disease Control and Prevention website: Salmonella – General Information – Technical Information. Available here (accessed Jan. 19, 2016).

• AL Davis, PA Curtis, DE Conner, SR McKee and LK Kerth. Validation of Cooking Methods Using Shell Eggs Inoculated with Salmonella Serotypes Enteritidis and Heidelberg. *Poult Sci.* 2008 Aug; 87(8):1637-42. Available here (accessed Jan. 19, 2016).

• TJ Humphrey, M Greenwood, RJ Gilbert, B Rowe and PA Chapman. The Survival of Salmonellas in Shell Eggs Cooked under Simulated Domestic Conditions. *Epidemiol Infect*. 1989 Aug; 103(1): 35-45. Available here (accessed Jan. 19, 2016). • IncredibleEgg.org website: Eggcyclopedia – Lutein. Available here (accessed Jan. 19, 2016).

• Inicia Ltd. website: Facts About Eggs — Can Protect Your Eyesight. Available here (accessed Jan. 19, 2016).

• American Optometric Association website: Patients & Public – Caring for Your Vision – Diet & Nutrition – Lutein & Zeaxanthin. Available here (accessed Jan. 19, 2016).

• H Steinfeld, P Gerber, T Wassenaar, V Castel, M Rosales and C. de Haan. Livestock's Long Shadow – Environmental Issues and Options. United Nations, Food and Agriculture Organization. 2006 Nov. Available here (accessed Jan. 19, 2016).

## Video Transcript:

Eggs are a traditional breakfast food in the West, and are popularly thought of as highly nutritional. However, numerous experts disagree with this culturally popular idea and instead advocate strongly for not consuming any eggs.

When egg companies use funding from the federally overseen American Egg Board for marketing and advertisement, they are expressly not allowed to lie or be misleading. And, for this reason, they have been warned by the USDA to not couch eggs as healthy or nutritious because doing so could be considered misleading.

Through the Freedom of Information Act, Dr. Michael Greger from NutritionFacts.org obtained some very interesting exchanges between the USDA and egg companies that wanted to use the federally overseen American Egg Board advertising funds.

Here are some excerpts of Dr. Greger's presentation discussing this:

"This is some egg company trying to put out a brochure on healthy snacking for kids. But because of existing laws against false and misleading advertising, the head of the USDA's poultry research and promotion programs reminds them that you can't couch eggs or egg products as being healthy or nutritious.... You can't say eggs are nutritious at all. Can't say 'nutritious'. Cannot say eggs are 'nutritious', sometimes you have to tell the industry a few times. Can't say eggs are 'healthful', certainly can't say they're 'healthy'.... Since you can't say eggs are a 'healthy' start to the day, the USDA suggests 'satisfying' start. Can't call eggs a 'healthful' ingredient, but you can call eggs a 'recognizable' ingredient. Can't truthfully say eggs are good for you. Can't say they're good for you. By law, the egg industry 'needs to steer clear of words like healthy or nutritious'."

So, the USDA warned the egg companies not to represent eggs as either healthy or nutritious to steer clear from false advertising claims. Let's look at some relevant nutritional studies that illustrate this point.

A competing risk analysis of the famous (Harvard) Nurses' Health Study found that consuming the amount of cholesterol found in just a single egg per day appeared to cut a woman's life short as much as smoking 25,000 cigarettes (or 5 cigarettes a day for 15 years).

Harvard researchers studied diabetes risk in a group of over 50,000 people and concluded that consumption of as little as a single egg a day is "associated with increased risk of type 2 diabetes in men and women[.]"

This study in the Journal of the American Dietetic Association examined the risk of atherosclerosis in white and African American communities and concluded that heart failure risk was higher with greater intake of eggs.

(Harvard) Physicians' Health Study found that regular "egg consumption was positively related to mortality" or death, in general.

Regarding prostate cancer, which is the #1 cancer in men in the U.S., this study published in the journal Cancer Prevention Research, found that "[m]en who consumed 2.5 or more eggs per week had an 81% increased risk of lethal prostate cancer compared to men who consumed less than [a half an egg] per week.... In conclusion [they said], consumption of eggs may increase risk of developing a lethal form of prostate cancer among healthy men." This finding is disturbing because prostate cancer is very common in the West, and it's usually a slow growing cancer. But, from this and other studies, it looks like eating eggs (as well as animal protein in general) makes this cancer more aggressive and malignant.

Lastly, a review published in the Canadian Journal of Cardiology is noteworthy. It was authored by three prominent physicians: (1) Dr. David Spence, a leading stroke expert and director of the Stroke Prevention and Atherosclerosis Research Center; (2) Dr. David Jenkins, who is credited with developing the glycemic index; and (3) Dr. Jean Davignon, Director of the Hyperlipidemia and Atherosclerosis Research Group of Montréal and co-founder of both the Canadian Atherosclerosis Society and the Canadian Association for Familial Hypercholesterolemia.

very prominent physicians asserted that dietary These cholesterol should be limited to no more than 200 mg/day, and brought attention to the fact that a single large egg contains mg of cholesterol, more than their daily limit, 275 concluding, in practicality, that nobody should be eating any eggs. They explained that, "[d]ietary cholesterol, including egg yolks, is harmful to the arteries" and "[s]topping the consumption of egg yolks after a stroke or myocardial infarction would be like quitting smoking after the diagnosis of [lung] cancer: a necessary action, but late." Cholesterol is only found in animal foods, and we don't need to consume any of it because our body makes all the cholesterol that we need.

Now the interesting exchanges that were uncovered by Dr. Greger further showed that the USDA has also warned egg companies to not couch eggs as safe.

Here's more from Dr. Greger:

"[T]hey can't even refer to eggs as safe. 'All references to safety must be removed' because more than a hundred thousand Americans are Salmonella poisoned every year from eggs.... Instead of 'safe' you can call eggs 'fresh', the USDA marketing service helpfully suggests. But you can't call eggs safe, you cannot say eggs are safe to eat, can't say they're safe, can't even mention safety, can't say they're healthful. All 'references to healthfulness must be deleted' as well. Wait a second: Eggs can't really be called healthy? Eggs can't even really be called safe? Says who...? Says the United States Department of Agriculture."

The fact is the CDC estimates there's over a million cases of Salmonella annually in the United States alone. And eggs and dishes made with eggs are important vehicles for human Salmonella infection.

This study funded by the egg industry itself shows that Salmonella can survive the sunny-side-up, over-easy and scrambled cooking methods, with sunny-side-up being a "method [that] should be considered unsafe."

In this study, published in the journal Epidemiology & Infection, strains of Salmonella were found in eggs even after they were boiled for eight entire minutes. The researchers concluded that, "viable cells could be recovered from eggs cooked in any manner." In other words, if the concentration of Salmonella was high, live bacteria could be found after cooking eggs in any way — no cooking method resulted in the complete destruction of the Salmonella.

And while the egg industry tends to downplay these serious areas of concern, it appears that they have no problem overstating the nutritional aspects of eggs. For example, the industry often cites the medical benefits of two particular compounds found in eggs — lutein and zeaxanthin. From incredibleegg.org, an American Egg Board industry promoting website, "When hens are fed a diet which includes yellow corn, alfalfa meal, corn-gluten meal, dried-algae meal or marigoldpetal meal, xanthophylls are deposited in the [egg] yolks." From the website of Inicia, a large egg production and distribution company, "Lutein and zeaxanthin are two antioxidants found in eggs that may help to prevent macular degeneration, a leading cause of age-related blindness."

These substances — which by the way come from plants — do in fact appear to help protect our eyes from conditions such as macular degeneration. But, the American Optometric Association recommends eating 10 milligrams of lutein per day to protect eyesight, and they note two large eggs contain only a mere 0.3 milligrams, which means you would need to eat a staggering 66 large eggs per day to meet this 10-milligram recommendation. Or, as the American Optometric Association also notes, instead you could just eat a single cup of kale or spinach, both of which have more than twice the recommended 10-milligram amount. Clearly, it's better to get these eye protecting antioxidant nutrients directly from the plant-based source, and not use a chicken's reproductive system as a highly inefficient intermediary.

I personally do not feel comfortable consuming eggs, and I do not recommend them for any of my patients given these health issues. And, if being problematic for our health wasn't enough, livestock in general (including poultry and eggs), is highly problematic for our environment too.

According to scientists from the United Nations Food and Agriculture Organization, the livestock industry is "the major driver of deforestation, as well as one of the leading drivers of land degradation, pollution, climate change" among other environmental problems, and is responsible for more greenhouse gas emissions than the entire transportation sector combined. And, apart from its huge water footprint, it is "probably the largest sectoral source of water pollution". There is now broad consensus that animal agriculture – which includes chicken and egg production – is a global environmental disaster.

Last but not least, consuming eggs is also very bad for the animals too. One-half of the chicks bred in hatcheries for egg-laying are males. And because they will never lay eggs, and have not been bred to grow fast enough to be considered economically viable for their meat, they are considered worthless by the egg industry and are treated as such.

The females and males are separated right after hatching, and then the male chicks are disposed of by the millions, most commonly either by being ground-up alive or dumped into plastic bags to slowly suffocate and die.

The female chicks who are not killed right after hatching don't have it much better, as they have a lifetime of misery before they are killed. First, the de-beaking, or the partial removal of the beak, is a common and standard practice in the egg and poultry industries, to keep chickens from pecking at each other in the stressful and crammed conditions in which they live (even for most labeled cage-free, free-range and the like). Chickens' beaks are full of nerve endings, and this practice is done without anesthetics, causing severe acute and chronic pain. Whether they are in wired cages or in the "freerange" but still crammed environments, they frequently have abrasions and lung ammonia burns, as well as blisters from sitting on urine- and feces-covered floors.

And when the production of an egg-laying hen declines, before she is sent to slaughter, hens are often starved and denied any food for up to two weeks – a process known as "forced molting" in order to shock their bodies into one final egglaying cycle. When it's time to be sent to slaughter – at a fraction of their natural lifespans – the chickens first endure a nightmarish journey to the slaughterhouse, where many are killed and injured as they are roughly loaded on top of one another on crowded transport trucks, and hauled sometimes hundreds of miles without any food or water in all weather conditions – including severe heat and cold.

Those who survive the journey are typically hung upside-down (with many breaking legs as the rushed workers shackle them). Then they are stunned in an electrical bath (meant to paralyze them but not necessarily render them unconscious). Then they go through rotating blades meant to cut their throats and "bleed" them (but many having the blade injure them non-lethally). And, finally, they are dunked in boiling hot water to de-feather them (but for many, it is here where they die – when they are bleeding, injured, in pain and dunked and drowned in scalding hot water).

Please abstain from supporting this cruel industry that results in massive suffering and death for foods we have no biological need to consume, just like all the other animal foods. Please do so for your own health, for the environment, and for the animals. Thank you very much.

This transcript is an approximation of the audio in above video. To hear the audio and see the accompanying visuals, please play the video.

## Video Credits:

This video was written and narrated by Sofia Pineda Ochoa, MD, and edited by Bob Rapfogel.

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Without limiting the foregoing, this presentation also includes the following (with links included and last accessed January 20, 2016):

- Excerpts of the following videos: (1) "Who Says Eggs Aren't Healthy or Safe?" by Michael Greger, MD of NutritionFacts.org; (2) "What's Wrong with Eggs" by Erin Janus; (3) "How It's Made – Hatchery Chicks" from the Science and Discovery channels; (4) Mercy for Animals undercover investigations at Hy-Line Hatchery, Maple Leaf Hatchery and Chick-fil-A Suppliers; (5) the documentary Earthlings from Nation Earth; (6) "30-second clip: Chicken Slaughter" from Compassion Over Killing/TryVeg.com; (7) "Truth Matters: DxE Investigators Expose 'Humane' Fraud at Whole Foods" from Direct Action Everywhere; and (8) "Chicken Transport" by Loren Hart.
- The photograph of a crowded Willamette Egg Farms' "cagefree" hen house in Canby, Oregon, which holds a staggering 40,000 hens in each such "cage-free" hen house, credit Ross William Hamilton/The Oregonian (February 22, 2013).
- Screenshots and text from the following other websites: IncredibleEgg.org informational page: (1)"Lutein", "Eggcyclopedia" \_ аt http://www.incredibleegg.org/eggcyclopedia/l/lutein; (2) Inicia Ltd. website: "Facts About Eggs" - "Can Protect Your Eyesight", аt http://www.inicia.mu/eggs/facts-about-eggs; and (3) American Optometric Association website page: "Patients

& Public" - "Caring for Your Vision" - "Diet", at http://www.aoa.org/patients-and-public/caring-for-your-v ision/diet-and-nutrition/lutein?sso=y.