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What's the Raw Deal with Raw Milk?

[INTRO:] As parents, we are constantly making decisions that affect our kids' health. With so many options, it can be overwhelming to figure out what foods are best for their growing bodies. In the last few years, there has been a growing movement toward more natural, less processed foods. But does "natural" necessarily mean better? In the case of milk, the decision between raw or pasteurized is a highly contested issue among parents and professionals alike. Organizations such as the [Weston A. Price Foundation](#) extol the benefits of a diet that includes raw milk, especially for small children. On the other hand, the [American Academy of Pediatrics](#) warns pregnant women, small children, and infants against drinking raw milk because of the risk of illness. The internet is full of arguments for and against raw milk. But which one is right? If you ask me, the science answers the question for us. We should not feed our children raw milk because it increases their risk for disease without providing any significant dietary or nutritional benefits. Although proponents of raw milk consumption are passionate, the scientific evidence linking raw milk to illness far outweighs any potential benefits. The health and development of our children is of utmost importance to any parent. **[CLAIM →] However, we must also understand that widespread consumption of raw milk and milk products poses a risk to public health as a whole.**

[SECTION I. BACKGROUND HISTORY] **At around this time last year, I was working for the Texas Department of State Health Services (DSHS) investigating cases of**

diseases transmitted from animals to humans. While most of my work was dominated by mosquitos, fleas, and ticks, occasionally something a little more irregular would come across my desk. Such was the case with Nancy* – a pregnant young woman recently diagnosed with brucellosis, a bacterial illness most often transmitted from cows or pigs which causes undulant fever in humans. I interviewed Nancy numerous times and eventually we determined she had no risk factors other than the raw milk she had started drinking approximately one month before her symptoms began. Throughout our conversations, I learned that eight of Nancy’s ten siblings, including her 9-month old baby sister, also had symptoms consistent with brucellosis. Nancy’s mother, Dana*, seemed to have been experiencing symptoms as far back as halfway through her most recent pregnancy. As a mom, she was appalled at the idea that she may be somehow to blame for her children’s illness. After all, her whole purpose in giving them raw milk was because her own mother had recommended it as a healthier option than the milk found in the grocery store. Before this investigation, I admittedly knew very little about raw milk. Most of the cases of brucellosis I’d come across in the past had been linked to unpasteurized cheese imported from or consumed in other countries. But this case opened my eyes to a debate I had no clue existed.

Raw milk is milk that comes directly from the cow. Unlike the milk you find in the majority of grocery aisles, it has not been pasteurized or homogenized. Pasteurization, which heats the milk at a certain temperature for a short amount of time, is meant to kill disease-causing bacteria in the milk. At the turn of the century, raw milk and pasteurized milk were sold [side-by-side](#) in stores. But after several outbreaks of disease in the early 20th century were linked to raw milk, the movement to pasteurize gained ground and, in 1948, Michigan became the first state to require pasteurization of all milk sold for human consumption. The most recent [information](#)

available shows that currently, 30 states allow the sale of raw milk, although only 12 of them allow it to be sold at retail stores not associated with the dairy from which the milk originates. In order to understand the controversy and make an informed decision on whether to include it on our grocery list, let's first examine the "why," then break down the "why not" of the raw milk debate.

[SECTION II. OPPOSITION'S VIEWPOINT] **The campaign for raw milk seems like a tale as old as time.** For years, proponents of raw milk have said that raw milk is healthier because it contains essential nutrients. They claim proteins and vitamins in raw milk are destroyed by the process of pasteurization, severely reducing the milk's nutritional value. In his book *The Untold Story of Milk*, food activist and Weston A. Price Foundation collaborator Ron Schmid addressed pasteurization's effect on the proteins in milk. He explained that pasteurization "warps and distorts these proteins so that the body no longer recognizes them." He asserts because the body is unable to recognize these proteins, it is unable to absorb them into the body and is forced instead to use energy from the immune system to get rid of them. Schmid contends that pasteurized milk provides less nutritional value than raw because the pasteurization process damages or reduces the number of proteins and other vitamins to the point that human bodies are unable to use them. Raw milk proponents also believe it can help decrease the risk of some respiratory conditions in small children and infants. Two of the most referenced studies, conducted by scientists in [Switzerland](#) and the [Netherlands](#), suggest there are proteins and other components in raw cow's milk that may prevent the development of allergies and asthma if given to children at an early age. Because of their protective effects, they speculate these components could lead to the use of raw milk as a preventive treatment for infants. The Weston A. Price Foundation project, [A Campaign for Real Milk](#), is the most vocal advocate for the

widespread consumption of raw milk. The website contains all sorts of information extolling the benefits of raw milk and provides rebuttals to those who, like me, argue that raw milk is dangerous and poses a public health threat.

[SECTION III. REBUTTAL OF OPPOSITION] **If you are ready to head to the grocery store, dairy or underground raw milk distribution co-op to get some of that sweet whole fat cow's milk to put in your little one's cereal or bottle, put the keys down for just a second and let's break down the "why not" of raw milk.** To answer the claims of the pro-raw milk contingent, we have to look specifically at the claims of nutritional content and value as well as the potential for immune benefits. Let's start with nutrition. As it turns out, giving children raw milk or milk products does not provide any significant benefits over pasteurized milk. One of the main arguments of raw milk supporters is that important nutritional components in the milk are irreparably changed or destroyed by the process of pasteurization, therefore reducing the milk's nutritional value. However, this does not seem to be the case. Amino acids are organic compounds essential to all types of bodily functions, including brain development and muscle growth. [Studies](#) at the University of Kiel's Institute for Human Nutrition and Food Science examining the effect of pasteurization on the amino acid content of milk saw only a 1-4% decrease in the availability of essential amino acids. Such a small change in the amino acid content causes no noticeable nutritional difference compared to raw milk. But amino acids aren't the whole picture. On top of their individual purpose, amino acids are also the building blocks of proteins which, in turn, are the building blocks of bones, muscles, skin, blood, as well as having a host of other vital functions in the body of a growing child. A [study](#) conducted by Drs. Charlotte Braun-Fahrländer and Erika von Mutius in the Netherlands showed that when looking at the two main proteins in milk, casein and whey protein, pasteurization did not have any

observable effect on casein and only slightly changed whey protein. These changes did not affect the ability of the human body to digest the proteins or inhibit their nutritional quality in any noticeable way. Moreover, when compared to the unaltered proteins present in raw milk, there did not seem to be a discernible difference in the way the body used those proteins during metabolic processes. This means that, even if you give him or her pasteurized milk, your little one's body will still be able to reap all the same benefits that raw milk would provide.

The same can be said regarding the variations in amounts of vitamins. While some vitamins are more affected than others, the only affected vitamin for which milk is an excellent source is vitamin B₁₂. That being said, the amount of vitamin loss for all affected vitamins is less than 10% – a difference easily compensated for with an extra serving of beef, chicken, or eggs (which are much better sources for B₁₂). Furthermore, the amount of vitamins in milk compared to the recommended daily values are not significant enough to have an adverse effect on a child's overall diet and are therefore inconsequential to their nutrition. The point I am trying to make in this instance is that, while pasteurization does have some effects on the nutritional components of milk, none of these effects is substantial enough to make pasteurized milk significantly less nutrient-rich than raw milk.

“Okay fine,” you sigh, “but what about the fact that raw milk can keep my baby from getting allergies?” As I mentioned before, many pro-raw milk advocates cite studies which seem to suggest that raw milk leads to decreased incidence of allergies and asthma. Milk proteins also play an important part in this belief. A [study](#) by Dr. RJ Joost van Neerven, professor of Mucosal Immunity and Senior Research Specialist at Wageningen University and Research in the Netherlands discusses the factors present in cow's milk that could potentially protect against the development of asthma and allergies by stimulating the same immune responses as human breast

milk does in infants. Dr. van Neerven and his colleagues posit that bovine immunoglobulin can act similarly to breast milk proteins in offering a binding site for inhaled or swallowed allergens, allowing the body time to formulate a proper immune response without causing disease.

Similarly, the Fahrlander-von Mutius study – one of the most referenced publications of pro-raw milk advocates – found evidence that raw milk may have a protective effect on the development of asthma and allergies in small children. They also suggested that further study could lead to the use of milk as a preventive measure for these conditions. Though I concede that this evidence should not be ignored, I insist that more studies are necessary in order to definitively determine if raw milk is indeed responsible for the observed effect, as opposed to other factors. As it happens, both of the above-mentioned studies seem to echo this opinion. The van Neerven paper specifically states that there have been no controlled experiments conducted to prove the hypothesis that the components of raw milk are the cause for the decreased incidence of asthma and allergies. Likewise, Braun-Fahrlander and von Mutius recognize that “we need to understand which components and mechanisms are underlying the observed protective effect and risks” before raw milk can be used as a preventive measure for these conditions. Both papers conclude that, in the meantime, raw milk consumption cannot be recommended because of the risk of its contamination with disease-causing organisms. So, while these are important findings for scientists to further explore, we have to focus on the bigger picture as it exists currently and that is that raw milk is more likely to make our kids sick than it is to make them better.

[SECTION IV. REASONS SUPPORTING THE CLAIM] If both milks are virtually the same nutritionally, why does it matter which one we feed our children? To put it plainly, consuming raw milk could actually put your children at a higher risk for disease. Public health agencies and professional organizations such as the Centers for Disease Control and Prevention

(CDC), the U.S. Food and Drug Administration (FDA), the American Academy of Pediatrics (AAP) and others warn against consumption of raw milk, especially in small children. In 2014, the AAP published a policy statement in their [online journal](#) outlining their recommendation that raw milk should not be consumed by pregnant women, children or infants. The statement cites numerous scientific studies which suggest that raw milk can lead to serious illness without any real nutritional benefit over pasteurized milk. They go so far as to propose a nationwide ban on the sale of raw milk or milk-based products because of the risk of disease and the potential danger to public health. The views of the AAP mirror those of the CDC and FDA. On its [website](#), the CDC has a dedicated page detailing their view of raw milk consumption. The page includes infographics, scientific studies, a “[5 Raw Milk Myths Busted](#)” section, and even [videos](#) from women “whose choice of raw milk for themselves or their loved ones had life-long consequences.” The FDA’s [site](#) follows suit, candidly advising consumers to only consume milk which has been pasteurized.

These three well-respected organizations, considered reliable sources in their respective fields, are warning us against drinking raw milk and giving it to our children. Why? What’s the big deal? Historically, raw milk has been linked to a host of different pathogens, such as *E.coli*, *Campylobacter*, *Salmonella*, and many others. According to a CDC [study](#), outbreaks linked to milk consumption are almost twice as likely to be linked to raw milk than pasteurized milk. This is important because raw milk consumption is thought to make up less than 1% of all milk consumption in the United States. In other words, the probability of coming down with an illness as a result of drinking raw milk is considerably higher when compared to pasteurized milk. In the 14 years of data included in this study (1993-2006), raw milk-linked outbreaks averaged 5 per year compared to 3 per year for pasteurized milk. A [follow-up study](#), which looked at the 6 years

immediately following (2007-2012), discovered a four-fold increase in the average number of outbreaks linked to raw milk each year compared to the previous study. This demonstrates the public health risk associated with consumption of raw milk. In addition, the 2007-2012 study found that over half the outbreaks involved at least one child younger than 5 years of age. In two of the outbreaks, children aged between 1 and 4 years old made up over 25% of the reported illnesses. These studies are clear evidence of the risk of illness associated with consuming raw milk and make the point that children are at the highest risk.

If the prospect of having a sick child on your hands isn't enough to convince you to stay away from the raw stuff, consider that illnesses linked to raw milk tend to be more severe and, at times, harder to treat. The 1993-2006 CDC outbreak study found that outbreaks linked to raw milk tended to cause more severe disease and were more likely to lead to hospitalization. The ratio of hospitalizations for raw milk linked outbreaks in this study compared to pasteurized milk was 13 to 1. The severity of illness can be attributed to the fact that diseases linked to raw milk are caused by bacteria, which tend to have more severe symptom manifestations. Infection with certain strains of *E.coli*, a bacterium often linked to raw milk outbreaks, can cause kidney failure and even death. Brucellosis, a bacterial disease also associated with raw milk-linked outbreaks, can cause chronic issues such as inflammation of the joints (arthritis), the vertebrae (spondylitis), and the heart (endocarditis). Endocarditis can often be fatal. Additionally, certain strains of brucellosis, like the *B.abortus* strain, can cause spontaneous abortions in pregnant women.

With the severity of illness also comes the potential inability to treat them. Increasing numbers of infections linked to raw milk show evidence of drug-resistance, an issue that makes treatment of said infections more difficult. In 2016, the CDC [reported](#) an outbreak of *C.jejuni*, or blood poisoning, linked to raw milk consumption from a herdshare dairy in Colorado. This

particular outbreak affected 12 people, with one having to be hospitalized. The normal treatment for *C.jejuni* consists of a course of fluoroquinolone antibiotics. However in this case, the strand of *C.jejuni* attributing to the infection was found to be resistant to ciprofloxacin, tetracycline, and nalidixic acid, three of the most common fluoroquinolone antibiotics used to treat this type of infection. Similarly, in 2017, DSHS and CDC reported a [case of brucellosis](#) caused by infection with *B.abortus* vaccine strain RB51. This strain of brucella is resistant to rifampin, which is the first-line treatment for brucellosis infections, especially in

meantime, the risk of infection and disease that comes with forgoing pasteurization is real, and it is increasing.

[CONCLUSION] As consumption of raw milk becomes more widespread, so will the number of people getting sick with potentially chronic or even fatal conditions. Dana endured her entire pregnancy sick with an undiagnosed, seemingly untreatable infection. She gave birth to what she thought was a fussy, choleric baby. For months, her children suffered with a whole host of different symptoms. Nancy spent the latter half of her pregnancy in and out of the hospital, in fear of losing her baby, and not knowing whether he or she would be born with the infection. Both women got a raw deal from raw milk. As parents, we have a responsibility to our children to make educated decisions about the foods we choose to give them. In the case of raw milk, it is best for now to leave it on the shelf.

**Names have been changed to protect the privacy of individuals.*

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