**The Health Edge**

**Raw Milk Consumption: Risks vs. Benefits**

**John Bagnulo PhD MPH and Mark Pettus MD**

**April 6, 2016**

|  |  |
| --- | --- |
| Mark: | Welcome to The Health Edge, Translating the Science of Self-Care. Great to be with you as always. I am Mark Pettus, and I'm with my friend and colleague Dr. John Bagnulo. John, good morning bud. |
| John: | Good morning Mark, great to see you. |
| Mark: | Great to see you. As spring moves forward, it's definitely winter's sort of came back here in the Berkshires. We had our largest snowfall of the winter season here in early April, which says a lot about how strange this winter has been. |
| John: | Yeah, to quote I believe it was Al Pacino from Godfather three, "Just when you think you're out, they pull you back in." |
| Mark: | Absolutely. I had my snow blower and I was ready to put it away for the season. The days are longer and the birds are plentiful in the backyard. We've got our feeders up, and I think with all the snow they've really appreciated having some feeders to go to. |
| John: | Here in Ohio the pastures are all really now at a nice dark green. Most of the trees have flowered out or have small leaves forming. It's crazy. We haven't had the snow. We've certainly had a little bit of a downward turn in temperatures, but it's still full blown spring here. What a great time Mark for us to talk about what I consider to be one of the more nourishing foods in the food supply, which is raw milk. The reason I think it's a good time to talk about it is many of our listeners might not be aware of some of the benefits that have been shown recently with respect to raw milk. |
|  | This is the absolute best time to drink raw milk or to have many full fat dairy products for that matter, because when grass is growing really rapidly as it now and it will be up in your area here probably in the next month or so, there are substances in that rapidly growing grass that get passed on to the cow and end up in the high fat buttermilk products of that dairy product. Some of them are like Vitamin K in ways but they're very different and they have some profound effects on human health. It's a great time for us to embark on a very polarizing topic, right? It's as polarizing as the primary elections here. |
| Mark: | Polarizing is the word John. You bring up raw milk and you almost immediately get an emotional response, either pro or con, and certainly in the medical community it's almost universally con. Like so much of what we talk about John, and I know we'll drill deeply into this on the podcast, the data, the insight, the way that these issues are framed are such that there's just so much bias out there with respect to raw milk as anutrient dense food and much of the science not only supporting its safety. Like so many things we talk about, it's all about the sourcing. So much of the science and the microbiome and inflammation and topics we've touched on before become illuminated when we start looking at raw milk and many of the health benefits. |
|  | I'm wondering John if a good place to start, we'll make some distinctions between raw milk and conventionally pasteurized, homogenized milk, I often hear you just in reference to milk in general making the distinction between the cows from which the milk comes from, and sometimes that gets lost in the raw milk, pasteurized milk debate or discussion, but you frequently refer to the distinction between A1 milk and A2 milk, the cows that they come from and the implications, which I think perhaps not for everyone, but for some can be very significant in terms of sensitivities, inflammation, allergies and maybe we can star there John and then we can work into a bit more about some unique differences between raw milk and commercial produced milk. |
| John: | Yeah Mark, I think that's a good point. I don't think you can find a food that would more exemplify the changes that have taken place over just a few hundred years, never mind a few thousand years than milk. It's such a complex story in itself. Basically to your point, when we talk about milk, milk could be produced by a Holstein cow that's on predominantly a grain based diet with very little pasture exposure, and that's not something whether it be raw or pasteurized, I would ever want anybody to drink or to have as part of their diet. That's because as you mentioned the Holstein cow produces a very different type of casein, known as A1 beta casein, and it's more difficult for humans to digest. |
|  | In a way, it's a freak of nature because the Holstein cow was developed or bread around a hundred years or so to be a massive milk producer. The typical Holstein cow in a big commercial diary will produced thirty-two hundred gallons of milk in a three hundred day milking cycle. You compare that to older breeds Mark that do not produce as regularly this type of A1 beta casein but are older breeds that predominantly produced an A2 beta casein, they're producing seven hundred to maybe at most eight hundred and fifty gallons of milk in a three hundred day milking cycle. You're talking about only a quarter of the milk production that you get out of a modern Holstein cow, but again that's because the Holstein cow has been so intensively inbred just very recently in terms of dairy history. It was intensively bed so that these very unique gene expressions would take place in that breed, and that gene expression that those farmers or those animal breeders were after were just for that. It was for maximum milk production. |
|  | It comes at a very significant price not only to our health when you talk about A1 beta casein but also to the Holstein cow's life. It's intensively inbred. It's not as healthy or robust an animal in terms of its immune system and its ability to survive on just for forage like let's say a Jersey Guernsey cow. Again, it's a perfect microcosm for what's happened with our food supply, whether you're talking about milk or you're talking about particular types of vegetables which have also been highly refined by plant breeders. We've taken so many different foods and just tried to make them meet our needs as consumers or as farmers, and quite often when you do that you end up breeding out a lot of the nutritional benefits in a plant or an animal for that matter. |
|  | You're absolutely right. When we're talking about raw milk, which we'll get into here in just a few moments, I am still and will always be talking about the milk of an entirely grass fed animal and hopefully an older breed of cow like Guernsey. A Guernsey is predominantly A2 bet casein, which is really the gold standard. Jerseys can be also predominantly A2, but some Jerseys have been bred with Holsteins and you might not see that visibly in the coat of the cow. It may still be that beautiful amber colored or tawny color, but you can have Holstein genes in a Jersey cow and it would produce some A1 beta casein. The genetics can be a little complicated, but Guernseys and many Jerseys in brown Swiss cows are much, much better options, and you will find at least some of that A2 beta casein in the milk. |
|  | Then of course you have goats and sheep, which are always A2 beta casein and are maybe considered the best of the best, although finding their milk is much more difficult. Although there is a place in the Berkshires when we lived there, we'd get raw goat milk. It's over in Monterrey, for our listeners that might be in that area. The animals have to be on grass, they have to be the right breed. |
|  | That's a great I think segue into where does all of this really in some cases apparently convincing information come out regarding microbial contamination of raw milk? I think for many of our listeners they may have only been exposed to the headlines. Looking at outbreaks of whether it's Listeria or E. Coli. I know you understand this Mark, these outbreaks have been few and far between. We're talking about less than three hundred cases total going back to 1993 out of all the people in this country that drink raw milk, and there's of course millions, you've had less than three hundred cases of people who have been hospitalized, and that hospitalization could have been just for diarrhea and as extreme as maybe some kind of kidney failure associated with infection. It runs the gamut in terms the spectrum of reasons for hospitalization, but you're talking about less than three hundred cases of hospitalization since 1993. |
|  | Now if we were to take a look at chicken or shellfish or other types of seafood, spinach salads, you have numbers that far exceed the total cases going back to 1993 associated with raw milk. I think things are quite often distorted when people don't really understand the incidence of food borne illness from other sources. Raw milk is in no way considered to be in the upper echelon of contaminated foods. However, that being said, when the big dairy research, and I say big dairy, you know this Mark, the dairy industry is a multi billion dollar industry, and they really are not in favor of small dairies producing high quality, full fat, raw milk products. Big dairy actually funds research that is almost always biased towards pasteurized milk. |
|  | When they conduct this research to look at the levels of microbial contaminants found in raw milk, what they do is they collect raw milk from big feed lot dairies where you have thousands and thousands of cows wallowing around in their own fecally contaminated mud and silage and just really a contaminated environment. They collect the raw milk from those animals and then they conduct the testing on them and they find of course E. Coli and salmonella. They find all these contaminants, but you'd expect to find them in that type of environment. What you and I are talking about today is we're talking about an entirely different environment, a different cow, really a whole different series of events with respect to production. |
|  | In an initial glance, when you look at this type of data, it becomes very convincing that you should never drink raw milk because you're dealing with raw milk that is so contaminated because of the way the cows are being raised and that is going to really unfairly taint, for lack of a better expression, that's going to taint the data. If you take a look at raw milk that's collected from small dairies where the animals are on grass and they're only grass fed and you've got higher levels of quality control with the milking process and it's not being relied upon as chemical intervention is in a lot of the big dairies, you get completely different results. I think you have to really look to the European studies, which look at people who live on farms, who milk their own animals or collect the milk from small village dairies, you take a look at the results of that research and you see that the families who drink raw milk in these European studies, their children are much, much healthier. |
|  | They have much better immune systems, they have lower levels of inflammation. It is really complicated for the average person to basically pull all of this apart and make sense of it. I'm thankful that I have a food science background. That food science background really helps understand the differences here in processing and environments and even looking at the components of milk that can really foster human health. The prebiotics found in raw milk are very, very unique. You're not going to get those anywhere. You're not going to get them in a capsule. You're not going to find them from some type of functional food out there. |
|  | Of course, bifidobacter that can be found in raw milk is often painted as a contaminant by the industry, but it's really not. Bifidobacter, as you know Mark, is even if it's not specific to the human species, bifidobacter from other species tends to really produce favorable effects in the GI. There's so many layers to this, and I know you feel the same way Mark. We're both really passionate about trying to help people reclaim their health or their lives, and the only thing that can make me more passionate and more excited is if I think or I believe strongly, as I do with this case with raw milk, that a lot of this information has been unfairly broken down by the government, whether it's the FDA or the CDC, and they've tried to really paint a very, very ugly picture about raw milk. |
|  | I don't think that the average American has been given a fair representation or perspective on raw milk. I think it's been very one-sided, unless of you course you read Weston Price type work. The Weston Price Foundation does a really good job of really explaining the differences between raw milk and pasteurized milk. Unless someone has exposure to an organization like the Weston Price Foundation or they really dig deep into the research on PubMed or those types of search engines, they're not going to find this. They're just going to read the headlines, which unfortunately are really just skimming the surface here of the complexity with raw milk. I think when you take a look at all the different foods out there in our food supply, people will write at great length about things like kale and blueberries and almonds. These are often called super foods, but I would really challenge anyone to live on any of those foods for an extended period of time. |
|  | When it comes to milk, if you take a look at raw milk from an entirely grass fed cow, I don't think you can find a better food that's more complete Mark in terms of providing humans with all the different nutrients they need, has the absolute ideal macro nutrient representation. It can be sixty percent fat in some cases, which you and I go at great lengths to talk about. I just think it's really complex, and I hope that after listening to this that some of our listeners will at least consider going to a small local dairy, finding that right cow. I know this can be a big homework assignment, and some people might not have the time or the energy to embark on this, but I'm a big believer in raw milk and it's not something that I grew up on, although I wish I had. |
| Mark: | That was such a beautiful overview John, and there was so much there just listening to you. If I were to maybe summarize a few of the critical points that you've raised, because I think like so many of the topics that we've discussed that would fall into the category of really controversial or totally against mainstream thinking, these cultural memes that have formed the basis of how we perceive good or bad, safe or unsafe. This story of raw milk epitomizes many of the biases that generate information, that ultimately we attempt to interpret and apply in our own lives. It does say a lot John. We talk a lot about, I'm really interested in how we think, how we make decisions. |
|  | There is something about raw milk that is framed in a way that makes it seem radioactive as a product, yet when you really do get to the source of some information and you started with this point John, and I was reviewing this over the last few days, there have been to your point, and this is according to the FDA, a hundred and fifteen people on average per year will have some report of symptom or infection from drinking contaminated raw milk. A hundred and fifteen people per year, and that's in America. |
| John: | Let me be clear Mark, those are not hospitalizations. |
| Mark: | That's correct. |
| John: | We're talking about just a report. |
| Mark: | This is somebody getting maybe gastroenteritis, an upset stomach. Rarely are these folks hospitalized. There hasn't been a single mortality from raw milk consumption over the last thirty to fort years since the early seventies. Not one fatality. Some of this data comes from the Interagency Food Safety Analysis Collaboration, they work with the USDA and the FDA. A hundred and fifty people a year with some gastrointestinal upset from raw milk contamination usually from sources that aren't that good as compared with up to anywhere between ten million and forty million reports a year of food based contamination and health related issues. |
|  | A hundred and fifty per year in raw milk, anywhere between ten and maybe even forty million cases of food borne illness from raw milk sources. You touched on some of these John. If you look at E. Coli which can be a really nasty infection, I've dealt a lot with kidney related diseases from E. Coli. We call them toxigenic E. Coli. Almost have come from beef, again, from feed lot, usually sources of beef, vegetables like spinach and these packaged vegetables that become contaminated. If you look at Listeria which is commonly felt to be associated with raw milk and dairy, most of the reports are from fruits like cantaloupes, and when it is reported from dairy, most of the reports have been in feed lot dairy sources that have been homogenized and pasteurized. These are not raw milk sources. |
|  | If you look at Salmonella, again to the points that you may John, they're coming from poultry, from sprouted vegetables, from pork coming again from feed lot, just horrible unsanitary conditions. Campylobacter, again, it's an important food borne bacterium that can give people nasty gastrointestinal symptoms. While dairy is a common source of that, there just aren't many reports of that coming from raw milk sources. |
|  | You've got this mountain of food borne illness that you hear about all the time in packaged spinach or poor beef sources, that you're only going to get if you're eating fast food, red meat, poultry, and as compared with a molecule of evidence that raw milk is the source of these issues, yet the FDA and the USDA, which is ostensibly trying to protect us by this sweeping condemnation of raw milk, essentially recognizes that many, many there food borne illness sources, which represent 99.9 percent of food borne illness reported each year, are coming from different sources. |
|  | There's this tremendous disconnect. You don't want to sound like a conspiracy theorist, but when you just start following the money, it all begins to make sense, to your point. Most of the dairy industry has developed infrastructure for pasteurization. This is what dairy farmers have invested in. It's become the standard of milk production, and to come down and suggest that that's not the way to be doing this is there's just too much money at stake. If the consumer doesn't have the wherewithal to do the research and look at this, you're just going to drink the kool-aid or in this case the pasteurized milk. |
|  | The data, and I'm going to post some of this on our website John, but the data objectively speaks for itself in terms of what true food borne illness risk comes from and the magnitude of that in the United States, and it's a huge issue, and in many respects when I look at the history of pasteurization, it really was the perfect technology for the time that it emerged back in the 18th century, early 19th century where public health issues were rampant and many sources of illness and even premature mortality in the United States were on the basis of sanitation and public health issues. |
|  | Pasture certainly was a revolutionary in recognizing that heating a substance could eliminate that infectious risk, and for many milk and food sources at that time it was probably very advantageous, yet when you look at modern agricultural techniques as we frequently talking about, they're much more aligned with where industry is at, the research as it gets filtered, takes on the bias that supports where the incentives are and when you follow the money, unfortunately the incentives do not work well for the average consumer. |
|  | It's funny John, listeners may remember this, I think it was last year or the year before, there was some Listeria outbreaks from an ice cream manufacturer. I forget the name of the company, that's not important, but it was a company that had a track record of substandard processing. Yet there was no outrage there to be banning pasteurized milk. If that had come from a raw milk source, it would have been front page news and it would have become the basis of the Academy of Pediatrics and the family medicine, they would have all strongly pointed to that as the exact reason why people should be avoiding raw milk at all costs. |
|  | Bias is rampant, and it influences how we perceive risk and it can be very hard to undo those perceptions when fear of something really bad happening is attached to a particular choice, even if that fear is irrational, and talk to anyone who has a fear of flying or a fear of heights, it's hard to take a rational approach in undoing that fear. You have to actually experience the fact that being exposed to something is not going to harm you, and in the case of raw milk could dramatically improve your health. It's the whole neuroscience and the whole bias I think is so interesting John. It's just consciousness, and I think so much of what you and I are interested in and committed to is helping enhance consciousness so that folks can choose a bit more wisely and transcend some of those biases that are very much shaping the way they think about how they choose and what the consequences of those choices are. |
| John: | That's great Mark. I think risk assessment is a big part of this. I think people are always looking for that zero risk aspect of life, whether it's something in their diet, and it just doesn't exist if it's healthy or if it's from nature. You don't find a zero risk environment in the natural world. By the time you do, whether it's the sterilization of food or it's the sterilization of some other aspect of life in terms of trying to protect yourself from a falling tree, you're living in a cage and this case you've really restrained your diet to point where you're eating really refined processed foods that are nothing like what we're supposed to eat. |
|  | Risk assessment's a big part of it. I think this also speaks volume to how poorly many people understand this hygiene hypothesis or the importance of microbial exposure. Having someone avoid raw milk based on the one in six million or greater odds of developing some kind of illness is a lot like telling your kids you don't want them to play in a sandbox because you're afraid a cat's gone to the bathroom in the sandbox and your kids are going to get toxoplasma gondii or something like that. Most people have no idea how much greater the risk is of some other aspect of either their diet or some other area of life, and what we focus our attention in is just incredible. |
|  | We have to have exposure to microbes and the more and more we start to look at raw milk and how that can shift that microbiome in a very, very favorable way, people take probiotics and they spend a lot of money on probiotics, fermented foods. Unfortunately Mark we don't have the research yet that you and I would like to see with respect to changes in the microbiome, although I will say that the human gut project and looking at Africans who consumer raw milk and other areas of the world where people do eat raw milk is very favorable. These aren't the type of clinically controlled studies that a lot of the medical community is going to give the validation to it that it maybe deserves. |
|  | However, when you start to look at populations that do drink raw milk and you look at the diversity of their microbiome, you look at bifidobacter populations, you look at short chain fatty acid generation, very, very favorable in my opinion. It's just the foundation to this argument that you have to have exposures to microbes in a lot of different ways, not only from the soil that we put our hands into, the air that we breathe, but the beverages that we drink. A lot of people are quick to acknowledge the importance of this, but then when it comes to raw milk, it's like that conversation stops. |
|  | I can't tell you how many times when I tell somebody I drink raw milk, they look at me Mark like I have five heads and they say, "Aren't you afraid to drink raw milk?" Then sometimes if I have the time I say, "You know what, your odds are much more likely to be struck by lightening than to get really sick from drinking raw milk." I think sometimes three's a level of disbelief there. What really turned me onto all this is my travels and when I would go to areas of Asia or even Central America or in Europe is certainly the same thing, is you'd meet these families or you'd spend time in these villages Mark where raw milk was the only type of milk that people drank and you looked at how healthy these people were, in terms of their skeletal structure and their teeth. These are some of the healthiest people I'd ever been around. |
|  | You'd go just a few miles down the road to where a community had access to pasteurized milk or they were not drinking raw milk, and this isn't obviously research and these are just observations I made, but for me they really piqued my curiosity because I realized something was going on. It wasn't simply that they were farmers because you had farmers down the road that were boiling their milk or pasteurizing their milk because unfortunately they bought that public health message somewhere along the way. |
|  | I think just going way back, I saw that there were a lot of populations who were still practicing a raw milk diet and obviously they were getting some good benefits from this, and it's a lot like a lot of other aspects of life. Some of this is based on whether you want to call it urban legend or poor science or these public health messages that are maybe 18th century solutions for an 18th century problem who are not there anymore. A lot of layers to it, but you know what would be a good thing for us to dive into Mark just so people understand that there is a reward for this really low level of risk, again, people like to look at things in a risk/reward type of ratio, why would someone want to drink raw milk beyond the potential that it contains bifidobacter, because not all milk has high levels of bifidobacter. |
|  | Some certainly does. Going beyond the effects on the microbiome, whether it's the prebiotic effect of these oligosaccharides that are really unique and that bifidobacter is that one species loves to live on, what are some of the other benefits to raw milk that people might not understand? That might be a good place for us to go next. |
| Mark: | I think that's a great segue John, and if we were to look at breast milk, breast milk is raw milk, and we have eluded to differences that one sees in the epidemiology of inflammatory illness in children John, like in the science you often see these illnesses characterized as atopic, A-T-O-P-I-C, so asthma, allergies, eczema, hay fever, these rampant inflammatory issues. If you look at children who are breastfed and many of the same parallels apply here John, these prebiotic oligosaccharides, enhancing the microbiome of those children, balancing, modulating, regulating those inflammatory responses in a much more effective way. |
|  | Epidemiologically we know we see dramatic differences in children in young ages and as they get older, as adults, with respect to their risk breastfed compared to bottle fed. I think I would start this discussion by extrapolating this rapidly growing body of research, some of which is epidemiologic, but I think there's a lot of really good research now when you look at the microbiomes of babies, young children that have been breastfed as compared to bottle fed, you do see significant differences in the diversity and balances of the microbiome of those children, and you also see significant risk reduction of many of these childhood illnesses. |
|  | You start to see these patterns emerging. When you look at raw milk, from a healthy cow, a Jersey cow, an A2 raw milk, we know that there's a lot in it. May proteins of various types, enzymes, immunoglobulins, the defense, these antibody defenses that you would expect the mother mammal to be passing along to baby mammal are present and intact in raw milk. Most of these proteins get denatured, and not only do they lose whatever efficacy they may have to begin with, but they become much more allergenic when you heat them and alter the protein structures. We know that commercially produced milk is probably one of the most common sources of food allergies that is reported. |
|  | Certainly the protein, both the whey protein components of raw milk and many other enzymes, lactoferrin, lactoperoxidase, some of these antimicrobial, they actually can lower the risk of pathogenic infections because of the protein constituents of raw milk that otherwise would get destroyed in a pasteurization process or denatured and altered. I think if you look at the constituents, you can start to develop mechanisms whereby raw milk can actually protect an individual. Then I just look at the fat composition John, and we know that the omega 3, omega 6 ratios that we've talked about tend to be much better balanced in these grass fed animals and in the milk that they produce. The CLA conjugated a linoleic acid, which is much higher in raw milk and the cows that we're talking about, these A2 sources. |
|  | The science there has looked at anti cancer, anti inflammatory. I think they're still evolving evidence there, but there are many essential fat advantages. There are many protein and quality protein advantages including immunoglobulins and enzymes, and we know that just many of the vitamins that we often talk about, these fat soluble vitamins, Vitamin A, the carotenoids from these grass sources, and when people look at raw milk they'll be quick to notice that it has a yellowish, particularly when it's during pasture season, a much more yellowish composition, much in the same way that one would compare a pasteurized egg with a conventional egg. It will have a deeper orange coloration reflecting the concentration of those carotenoids from the grass source, which get translated to the milk that the cow produces. |
|  | This rich array of carotenoids and Vitamin K and other fat soluble vitamins I think there are just so many nutrient dense properties of raw milk. While I'm not sure John, and I'd be interested in your thoughts, what the exact mechanisms of lower inflammatory risk in raw milk drinkers are, because much like you see in children who were breastfed from their mothers, children who consume raw milk have comparable risk reduction in these atopic features, like eczema, like asthma, like hay fever and these can be really significant quality of life issues for kids. |
|  | In my emergency department today John, there will be ten kids that are going to come in with an asthma exacerbation and some of these kids might require hospitalization, and yet here's a product that we know can significantly reduce risk reduction. I think the mechanisms are still a bit understood, but I think what we're suggesting is that there probably are microbiome effects from the prebiotic, from the probiotic. There are probably anti inflammatory effects of the whey protein and other proteins that are biologically intact and functionally intact as compared to what you would see with pasteurization. |
|  | Those are some of the things that jumped out at me John just looking at the constituency and the mechanisms whereby that constituency as compared with pasteurized milk sources can confer more health benefit. |
| John: | Mark that's awesome. That's the foundation in terms of what you just defined. I think if you take a look at the effects it's going to have on these typical skin conditions, allergies, I think it's going to start with gut permeability. I think the fact that you have extremely, and that's what I want to emphasize to our listeners, extremely heat sensitive proteins in raw milk that, as you mentioned, are denatured, they're unraveled and then they lose their effectiveness in terms of helping the body absorb nutrients, helping the gut foster healthy bacterial populations of bifidobacter, out competing more pathogenic or potentially inflammatory microbes. As soon as heat is brought into this and homogenization is a whole other story, but when you pasteurize milk, you are basically making something safe for the shelf in terms of where it will maybe have a little bit of a longer shelf life before it turns sour, but you're making it far less effective or healthy for the human body. |
|  | That's really the way to summarize this. I hope that future research takes a look at gut permeability and takes a look at not only things like C-reactive protein, which have been looked at and looked very favorable in the raw milk drinkers, especially school aged children, but I hope we start to really look at other markers that come downstream from better gut integrity or less permeability, less immune activity within that one centimeter brush border lining. I think that's where it's at Mark, I really do. |
|  | Then you talked about these immunoglobulins. There are some very, very unique immune stimulating aspects of raw milk that, again, are lost with pasteurization. About forty percent of the B vitamins are destroyed during a pasteurization process, just under forty percent. It's like thirty-nine percent or so. You've got marked drop offs in mineral and trace mineral bioavailability when you pasteurize milk, meaning for our listeners who don't understand what bioavailability is, it's just how well we can absorb the nutrients, especially in the case of minerals and trace minerals with respect to raw milk. It's much, much better. |
|  | People just don't understand Mark what heat does to foods. We might understand what pasteurization does to our orange juice and how you have loss of Vitamin C and antioxidants. People might understand what happens to your garlic when you take that garlic to four hundred degrees Fahrenheit, it loses all its anti inflammatory properties. People know that you shouldn't cook with olive oil at really, really high temperatures, but when it comes to milk, for some reason people don't have the same type of thought process around it. You take milk to alter a pasteurization or even to the boiling point, and all of these little proteins that you mentioned become unraveled and they start to potentially work against us because our immune system is being presented with something that is more foreign in the way that the Amino acids occur. |
|  | The thing I'd want to add to this Mark, and you did a great job talking about the fats, it's predominantly saturated fat, which we know is we know that's the foundation of where our fat wants to come from. If these animals are on grass, it's usually a one to one ratio of omega 3 and omega 6, that's great as well. Then there's this whole notion of Vitamin D and the type of Vitamin D we get in raw milk, this is the only possible food source of sulfated Vitamin D, of the Vitamin D that is actually more water soluble when it enters the body and it has the ability to move more freely within our body as opposed to the fat soluble supplements that we take. The only dietary source is raw milk. You could put that at the top of the list or wherever we want to place that in the reasons why someone should consider raw milk a really healthy addition to their diet. |
|  | There's just a long list of nutrients that are more bioavailable substances that are better for gut health that can turn inflammatory processes around, and again, it has the ideal macro nutrient representation in my opinion. Sixty percent fat, depending on the time that this cow is being milked and the pasture that it's on, but usually it's about sixty percent fat, twenty percent protein and twenty percent carbs. It's hard to beat that macro nutrient representation with any other food. I think it's just a really interesting story, a great model for what food can look like as opposed to the commercialized feed lot product. I hope our listeners, after listening to this, would consider it an N equals one type of experiment Mark where they find either the right dairy. A lot of our listeners probably aren't going to buy a share in their own cow or their own goat, but that would be at the other end of the spectrum of course. |
|  | I think if people were to give it a try, they might have some really remarkable results, as so many people have shared with me. |
| Mark: | The best way to overcome some of the fear that's attached to risk that is more illusory than real John. With farmer's market season coming up, that's often a good way for locals to meet some of the local farmers and there is a website, there are probably many John, but the one that I'm familiar with is rawmilk.com. Actually I think it's realmilk.com, excuse me. Realmilk.com, which can help a person find a local dairy farmer that produces quality raw milk, is using Jersey cows, it's A2 milk, and in the Berkshires we've got a few sources as you know John. In the United States though there's this sweeping condemnation of raw milk. They haven't outlawed it. I believe that it is against the law to transport raw milk across state lines, but if you have a local farm, I think you have to buy directly from the farmer in some states. |
| John: | It's state by state Mark. |
| Mark: | It's state by state, and then you got states like California where you'll find raw milk in many retail areas. It's just so interesting John culturally, if you look at Europe, they've got raw milk vending machines right? It's all over the ... They've long recognized the value of this, and make it readily available to the public. When you're talking to someone from Europe, they just nod their head like, "Yeah, no kidding. We're well aware of this." In America, it's, again, there's this radioactivity that we attach to risk benefit of raw milk. |
|  | John, for listeners who might be inclined to do the N of one, there are different raw milk products. There's the milk, there might be yogurt from raw milk sources, there might be butter from raw milk sources. We would suggest that all of these products are really nutritionally dense and health promoting and very much worth adding to your repertoire of raw milk dairy products. |
| John: | Absolutely. I think raw milk yogurt, butter milk, which is basically raw milk which has just been allowed to sour a little bit, will have significant microbial content. Again, acting as a probiotic in a very good way. The butter, the quirk, which is a very, very thick type of, it's hard to describe, but it's like a really thick, thick heavy yogurt. There's just really an unlimited number of dairy products that are now being made from really high quality raw milk, and I think anybody that's interested in trying it, as you just said, they're all really great potential starting points for this, as I think buying a gallon or a half gallon, whatever someone wants to start of just the raw milk itself and either making their own yogurt, which is really simple to do, or having a small glass of that to start with. |
|  | I would say this, as a caveat. If someone has not had milk in a long time and they down a pint of raw milk, I think they should expect some kind of digestive distress initially. I'm not talking about anything serious, but either loose bowel movements, maybe even diarrhea. You're talking about the introduction of new microbes maybe, of just new challenges to the digestive system. There is still going to be lactose there. There is of course the enzyme lactase, which helps us digest the lactose in raw milk, so it's going to be a challenge though nevertheless. It's going to be better than having pasteurized milk if you haven't had any milk in a long time, but I just think people should expect changes initially that might be really concerning if they didn't have a chance to listen to this podcast, they didn't understand what was going on. |
|  | When you start out with anything, it makes sense to start out slow in some cases, and I think that's a good example here with raw milk. I don't think it's as important with butter or yogurt or things like that because the microbes are going to really have taken some of that initial digestive challenge out of the equation. The microbes digest a lot of the lactose in the process of making yogurt or cheese for that matter, but when you drink raw milk right out of the bottle or out of the glass, you do have to expect that it's going to give someone initially just a very mild to sometimes significant digestive systems. Could be that they have more flatulence, again, that there's changes in the bowel movement. I think people have to take my word for it here the way I talk about it. |
|  | This too will pass, and eventually people will, and this is what most people share with me and have over the years of my experience in working with patients or in my clinic, is that they're going to feel markedly better after they get through this transition period. It's a leap of faith, I know Mark, for some people. I'm sure some of our listeners, even if they listen to this, are beyond the sway of reasonable argument because they've just either been told that milk is the perfect beverage to produce a six hundred pound animal in a few months or we're the only animal that drinks the milk of another animal. These are all things that I'm really familiar with, and I understand their line of reason for saying them or for these things being perpetuated, and I think that in many cases it's good to avoid milk if it's from a feed lot animal, a Holstein cow. |
|  | Don't get me wrong, but when it comes to raw milk, it's a whole different ball of wax. I for one am really in favor of people trying it and seeing how it can help their health because I think in most cases it adds a lot of nutrients as we said, and it can really restore gut health in ways that probiotics and detox programs might not be able to. |
| Mark: | I think most people who try this are going to be really amazed at the differences they note in their health, that of their children and you touched on the Weston A. Price Foundation John. It's a great organization just in general, Weston A. Price being the pioneer dentist in the earlier 20th century who really opened others eyes, looking at ancestral cultures and how amazing their dentition was and jaw structure and how little, if any, periodontal issues they had without any, what we would consider in modern times, hygiene. Brushing twice a day and flossing twice a day. Of course most of these societies did not eat a lot of grain, as Weston Price was quick to notice, but they've got some great information if people are interested. |
|  | They have a campaign for real milk and do a lot of great advocacy work. They've got some good presentations, PowerPoint and video recorded presentations at their annual raw milk conference. It's some good objective information, and if people are looking for an additional source, I'll put that link up on our website. |
| John: | That's great Mark. I think the Weston Price Foundation does some really good work with not only this topic but with many others. |
| Mark: | This has been another enlightening overview John of a topic that hopefully we've taken from the level of controversial and brought it in through a different lens as people, again, begin to look at a radical change they can make in their lives. I guess in summary, anyone who is switching from a commercially produced milk product that's been pasteurized, homogenized, A1, beta casein, protein constituency and switches to raw milk is likely to find some significant health benefits. Any parting thoughts John before we bring this home? |
| John: | No. Just remember that the details are important. Depending on the state you live in, in Maine you can buy raw milk right from the store. Here in Ohio you have to buy a share in a cow, so our family, we own I don't know what percentage of a cow, but for us to get five gallons of raw milk, we probably own a leg of the cow, maybe twenty percent at most. In Massachusetts, you got to buy it from the farm, as you mentioned, I think it might be the same in New York State. It's a state by state process here, but I think Mark, for our listeners, if they want to have a little more confidence in this experiment that they may embark on, I think it's good to go to the farm if you can and see that the cows are on grass and see that they're Guernseys or in the case of goats I think that's even a better milk product, all things considered. |
|  | I think it's good for people to establish that relationship with the farm or even through the farmer's market or by going to the farm because then you know there's a lot of layers to this, but then you're just one step closer to your food source. I think it's a more integrated process. I think that's, for me, a good first step. Then once you understand that you tolerate it well and you're responding well, then maybe you can make some other options available, you can try other dairies or whatever and you can buy it from the store, if possible. I think it's a good first step, as you mentioned, buy it from the farmer's market. Make that relationship if you can with your farmer and just makes for a better food supply all around. |
| Mark: | Fantastic. We appreciate people tuning in to The Health Edge. I would encourage folks to check out our website, TheHealthEdgePodcast.com. We've got all of our recorded podcasts. We've got show notes, which generally appear within twenty-four hours of these recordings. We've got some videos on YouTube, and some other information that people may find of interest. We can also be found on iTunes, and if you're a listener and you like the quality of the information that John and I are providing, we love doing this. It's just getting the word out. It's bringing the power back to the people. Give us a thumbs up. We appreciate that. |
|  | We also have an app, which people can find at the iTunes app store. It's a Health Edge app, which it's just a player, which will automatically download our podcast. Check that out if you might be interested, and appreciate your listening. John, it's been awesome as always. Great to see you. Great to learn from you, and have a great day. |
| John: | Same here Mark. Thanks everyone. |