



Homogenization and Pasteurization

~Dr. Nicola Dehlinger



I have a question about dairy-- it seems like so many people are sensitive to it. Is this sensitivity still prevalent for folks who are drinking raw milk from grass fed cows? It seems like sensitivities would come from homogenization and pasteurization processes which create larger (and less natural) molecules. This is something I've been curious about and I'd appreciate any thoughts you have on it. – From Analisa

Thanks for your question. It's a tough topic with a lot of heated opinions and not a lot of conclusive science to support either argument. So, I will offer my (humble?) opinion about the whole milk debate...

I think so many people are sensitive to dairy (I would guess almost everyone would feel better in some aspect of their life if they cut all dairy out - from sinusitis to fatigue to GI issues and more. In my practice, I am guided by the laws of Nature. In nature, animals don't drink any milk beyond young childhood and no animals (except us nature-defying humans) drink the milk of another animal. This leads me to believe that it is not healthful to drink milk or eat dairy products in general.

Milk is an emulsified liquid, which means that there are fat globules of different sizes are suspended in water. In its raw form, the fat will separate and float to the top in the form of cream. Homogenization is a process where the milk is put under a lot of pressure and forced through holes of the same size. This makes the fats *smaller*, of a similar size and evenly distributed throughout the milk. This is done to extend shelf-life, offer more convenience (i.e. consumers don't have to shake the bottle to get the fat to mix), People who are anti-

homogenization argue that this process of making the fats smaller make them harder to digest in the gut and therefore can pass through the intestinal lining without being broken down. Hormones are stored in fat and these excess hormones will then be transported into the blood stream and can negatively affect various other cells and organs in the body. On top of that, if the cow that provides the milk has been dosed with extra hormones, we will be getting even more foreign hormones in every serving of dairy. Giving estrogen to cattle is standard practice in non-organic farms to add water weight and calm the animals' anxiety when in over-crowded conditions. Cows are also routinely given growth hormone to increase their weight and antibiotics to prevent infections that are rampant in over-crowded environments.

Pasteurization is a process where the milk is heated to extremely high temperatures in order to kill off any pathogenic bacteria that may be living in the milk. This is problematic because it also kills off any beneficial bacteria that would actually be healthful (i.e. the pro-biotics found naturally in un-pasteurized yogurt). I also believe that this process will kill any enzymes naturally available in the milk to help us digest it more completely. Proponents of raw milk argue that it is easy to produce milk that is not contaminated with harmful bacteria. I believe this would be impossible in most of the commercial dairy farms due to overcrowding, poor sanitation and mass production that is ubiquitous these days.

Finally, cows that are fed grains rather than grass will be producing essential fatty acids that are pro-inflammatory rather than anti-inflammatory (like omega 3 and 6's). If the cow has more inflammation in her body, then the meat or milk of this cow will also be higher in inflammatory proteins. This, in turn, will be problematic in humans, contributing to issues like heart disease, diabetes and cancer.

It was very hard for me to give up dairy (especially cheese) because it's just so tasty. However, after a few months of whining, I am successfully dairy-free and I feel much better overall, especially my gut function. Not to mention that my infant son, who had pretty intense colic when he was born (and I was eating dairy) responded immediately to me cutting out dairy, which I did when he was 4 weeks old. Needless to say, the outside motivation of seeing the negative impact of dairy on my son through my breastmilk was major motivation to let it go. We don't all have that external motivator, so I think it has to come from within. What I recommend to my clients is that they cut out all dairy for 4 weeks and then re-introduce dairy after they are "cleaned out". Most folks notice some difference when they re-introduce dairy and feel motivated to avoid it in the future. And, when they indulge, they are making an educated decision and know what the ramifications will be. And that's the goal of nutrition education - to be informed about how what we eat impacts us, not to restrict everything and no longer enjoy eating!

What's the bottom line? I think dairy is not the most healthful food in general. I think it should be avoided or eliminated entirely from the diet for most people. However, if folks want to continue to eat it, I would recommend raw, unpasteurized products. For example, there is an Italian specialty shop here in town that imports all of its cheeses from Europe so they are not as processed and have significantly less chemicals. There is also a local farm that offers organic dairy products. Or contact your local 4-H and see if you can get some raw milk from their cows or goats. At the end of the day, eating whole foods that are as close to how they are found in nature is the most healthful choice.