

LE Magazine May 1999

## INTERVIEW

A Conversation with  
Will Brink

You may have already come across his name. A well known contributor to numerous sports, nutrition and alternative health magazines, Will Brink is also an established and highly regarded speaker and industry consultant to pharmaceutical and supplement manufacturers. His articles and monthly columns appear in such magazines as *The Townsend Letter for Doctors*, *MuscleMag International*, *Muscle Media*, *Muscle 'n Fitness* and *Lets Live*, as well as our very own *Life Extension*. As the primary writer of this publication's articles on whey protein, Brink has become a recognized, well published expert on the subject. He maintains frequent contact with numerous scientists and medical doctors who research whey protein, and has become personally involved in conducting primary research on whey protein and athletes.



**Life Extension: How was it that you became interested in whey?**

**Will Brink:** I was looking for the highest quality protein I could find for athletes. I sought out a protein with a very high biological value that would be helpful to bodybuilders and other athletes trying to maintain muscle mass when dieting. You see, the lower the calorie intake, the higher the protein quality needs to be in order to maintain muscle mass. I found out that whey had the highest biological value of any protein studied. As I looked further into the topic of whey, I soon realized this was only the tip of the ice berg: whey actually had numerous benefits that had nothing to do with its biological value or its use to athletes. The more I studied the scientific literature, the more I realized what an amazing medicinal and functional food whey was.

**LE: When was this?**

**WB:** Oh, probably around the mid eighties or there about.

**LE: And what happened after that?**

**WB:** I began writing articles on whey for various publications, including your magazine, and established contact with researchers and manufacturers. As time went on, I began acquiring a reputation as someone who was well-informed on whey protein. With my name recognition I began designing whey products, conducted and consulted research, and began giving lectures at scientific symposiums on the topic of whey. The article topics I have written about do extend beyond whey, but I seem to have developed a reputation in the area of whey protein.

**LE: What was the last symposium you spoke at?**

**WB:** I believe it was a symposium on Dairy and Non-dairy Nutraceuticals and Functional Foods, held at the University of Alberta in Edmonton Canada last year. More recently I did a radio show on the same topic.

**LE: Where does whey come from?**

**WB:** Whey is a milk-based protein. Milk is primarily made up of two major proteins: casein and whey.

**LE: As in "curds and whey," just as it was in the fairy tail?**

**WB:** Exactly.

**LE: Are casein and whey found in both cows' milk and human mothers' milk?**

**WB:** Yes. I think it's interesting to note, however, that human mothers' milk is mostly whey during the early parts of lactation while cows' milk is primarily casein. Human infants are probably much better off ingesting whey-based rather than casein-based or soy-based formulas, in my opinion, and there has been some research that points in that direction.

**LE: What is whey itself made of? Is it a complicated protein?**

**WB:** Yes, whey is actually a fairly complex protein. It has many protein subfractions, most of which have yet to be really studied as separate entities from whey. What we do know is that many of the small subfractions that are found in whey have their own unique effects on health.

**LE: Are there any good examples you can think of off the top of your head?**

**WB:** Sure. There is a subfraction in whey called lactoferrin. It's only found in very small quantities in well-made whey proteins, though many products contain virtually none due to the type of processing employed. Anyway, lactoferrin appears to have an amazing range of potential health benefits. It has been shown to inhibit the growth of many pathogenic bacteria by binding up the iron that bacteria need to multiply. Some research suggests it can improve the efficiency of antibiotics and can stimulate intestinal cell growth, enhancing the growth of "good" intestinal microflora.

**LE: Incredible. Who would have thought all that could come from a small protein found in milk?**

**WB:** That's not even the entire story of lactoferrin, which is just one subfraction found in whey. Lactoferrin has also been shown to have positive immunomodulatory effects and is a strong antioxidant and protects certain cells from lipid peroxidation.

**LE: And how many subfractions are there in whey?**

**WB:** Quite a few. In addition to lactoferrin there is beta-lactoglobulin, alpha-lactalbumin, immunoglobulins (IgGs), glycomacropetides, bovine serum albumin (BSA), lactoperoxidases and lysozyme, among others.

**LE: How long has whey been used in the treatment or prevention of disease?**

**WB:** Actually, for a very long time. It is known to have been used at least as far back as the Middle Ages, and was used in time of acute sepsis conditions- i.e. severe infections. Interestingly, modern research did indeed show it greatly increased animals' ability to fight off infections from many pathogenic microbes- once again, old folk medicine has its roots in real effects on the body.

**LE: How does whey compare to soy?**

**WB:** Ah, well, that's one of my favorite questions and a question I am frequently asked. Whey and soy work through very different mechanisms. As I see it whey works in a much more general sense, that is by improving the immune system by increasing glutathione, while soy is less systemic through the actions of its isoflavones and other plant-based constituents. More importantly, I can tell you that in all the research I have seen on whey versus soy in animals, whey has been superior for preventing certain cancers and protecting against various pathogens, as well as providing other health-enhancing effects such as improved immunity and glutathione levels. Of course, the research does not suggest in any way that soy does not have its own unique effects and benefits. It is just that many may not realize how potentially powerful a well-made whey supplement can be.

**LE: Why do you think most people know about the benefits of soy but still know little about whey?**

**WB:** That's sort of a pet peeve question for me. The answer is simple marketing. The soy manufacturers have done an excellent job of promoting soy through funding research and different public venues while the large dairy manufacturers have not. It's pretty much that simple. Whey is a much higher quality protein than soy from a biologically valuable point of view. It is just as marketable as soy, and actually tastes better to most people. As I said I am not trying to bash soy. I drink it myself and recommend it, but I do believe a large number of people could benefit from using a high quality whey supplement.

**LE: What is it going to take to make whey a household name like soy?**

**WB:** High grade whey protein manufacturers need to develop a comprehensive program to disseminate information to the consumer similarly to the way the soy industry has, which is exactly what I tell the companies I consult for on that issue. As it stands now bodybuilders and some alternative medicine doctors and life extensionists know about whey, but few others do. I think that's a shame.

**LE: It sounds like you are determined to change that.**

**WB:** You bet I am!

**LE:** What group of people may benefit from taking whey and what are the benefits?

**WB:** The real question is, What group would not benefit from whey? I can't think of any. As I mentioned before, whey is a great protein for athletes, but there is clear research it has profound effects on immunity and cancer. It is also being used quite a bit with those who are HIV-positive. Low glutathione levels are associated with a number of diseases. Whey has been shown to raise glutathione levels, and therefore should be used by just about everyone. [Editor's note: glutathione is the most abundant water soluble antioxidant in the human body and is essential to immunity.] Just last year a study showed that the death rate from AIDS strongly correlated with the glutathione levels of people with HIV; increased CD4 cell counts appear to go up in some people with HIV who use whey. These are the clinical reports from doctors who are using whey with HIV-patients. I covered this topic in Life Extension magazine when I wrote up all the benefits of whey after returning from the International Conference on Whey last year or so (October 1998, Life Extension magazine, pp. 16-19).

**LE:** What group of people do you believe should be using whey but are not currently aware of its benefits?

**WB:** Older adults. Whether they have age-related diseases or not, older adults could readily benefit from adding whey to their daily supplement regimen. Research has shown that older Americans are often deficient in protein, a noteworthy fact for many reasons. Even if they are not protein-deficient, whey is an efficient way to supplement older adults' protein intake. It provides the ideal combination of amino acids to increase protein synthesis, boost cellular glutathione levels and improve immune function.

**LE:** What about people who have milk allergies or problems digesting dairy products?

**WB:** There are two issues here. People who have a lactose intolerance and people who are really allergic to milk products. Any good whey isolate will include virtually no lactose, and in fact can be labeled as lactose-free by manufacturers. As for the allergy issue, the allergenic properties of whey are found mostly in the subfraction called beta-lactoglobulin. Some manufacturers of high quality whey isolates and concentrates have been able to reduce that subfraction while increasing others. I have seen very few allergic reactions to well-made whey products. However, I would caution people with recognized milk allergies to try a small amount at first.

**LE:** Tell us about the research you have been conducting on whey.

**WB:** The Peak Wellness Lab in Greenwich Connecticut and I conducted a small pilot study on whey's effects on over training syndrome (OTS) in elite endurance athletes. We presented the results at last year's American College of Sports Medicine Conference, and have just concluded a larger follow-up study we hope to publish in the near future.

**LE:** What did you find?

**WB:** In both the pilot and the larger study, we found that extremely intense exercise tends to reduce certain aspects of immunity, which is fairly typical of OTS. In particular, we found a statistically relevant reduction in CD4 T lymphocytes and neutrophils when we over-trained the athletes. When we replaced- not added -60 grams of whey isolate to their diet, CD4 T lymphocytes and neutrophils returned to baseline levels. In fact, the CD4 T lymphocyte count exceeded baseline figures slightly. The research suggests that whey has beneficial effects on athletes' immune status; it coincides with existing research on whey.

**LE:** How much whey should people take?

**WB:** We do not yet have absolute figures. However, since whey is completely harmless at any remotely normal intake, an exact dosage recommendation is not required. It would be interesting to find what dosage produced specific effects, though. Our study used 60 grams a day, but other studies have used 30 grams with non-athletes. I advise healthy non-athletic types to use maybe 20-40 grams a day. Those who have various diseases, or athletes who train intensely, should likely take anywhere from 40-80 grams a day. A typical scoop measures approximately 20 grams, so a scoop or two in the morning and a scoop or two later on in the day should more than cover it.

**LE:** What are some of the differences among whey products?

**WB:** That can actually get fairly complicated. Some companies make quality claims in their advertising that cannot be substantiated or are very misleading. Basically, there are many ways to process milk into whey and there are numerous factors that affect the quality of the end product. The bottom line appears to be the amount of denatured proteins that are present, i.e. the damage to the delicate subfractions and how the damage has affected the whey's ability to raise glutathione. The other key factor is the actual ratio of subfractions in the whey. Different types of processing will tend to concentrate different subfractions and lose others, such as the lactoferrin I mentioned earlier. The process is still being refined, but immunity and glutathione levels appear to

depend on a few essentials: the content of certain subfractions and ratios that remain in an undenatured state, i.e. have not been exposed to high temperatures and/or high acidic conditions during processing.

**LE:** We appreciate you taking the time to review the value of whey proteins. I believe our conversation will go a long way in helping people understand the benefits of whey.

Other articles written about "Whey Protein" and published in past issues of LE Magazine.

- Unlocking the Secrets to Health & Fitness WHEY PROTEIN  
October 1998
- WheyProtein Power  
March 1998
- Fighting Cancer With Whey  
November 97

Visit his site:

Will Brink - Industry consultant, author, and columnist.

<http://www.brinkzone.com/>

[Back to the Magazine Forum](#)

All Contents Copyright © 1995-2009 Life Extension Foundation All rights reserved.

**LifeExtension®**

These statements have not been evaluated by the FDA. These products are not intended to diagnose, treat, cure or prevent any disease. The information provided on this site is for informational purposes only and is not intended as a substitute for advice from your physician or other health care professional or any information contained on or in any product label or packaging. You should not use the information on this site for diagnosis or treatment of any health problem or for prescription of any medication or other treatment. You should consult with a healthcare professional before starting any diet, exercise or supplementation program, before taking any medication, or if you have or suspect you might have a health problem. You should not stop taking any medication without first consulting your physician.