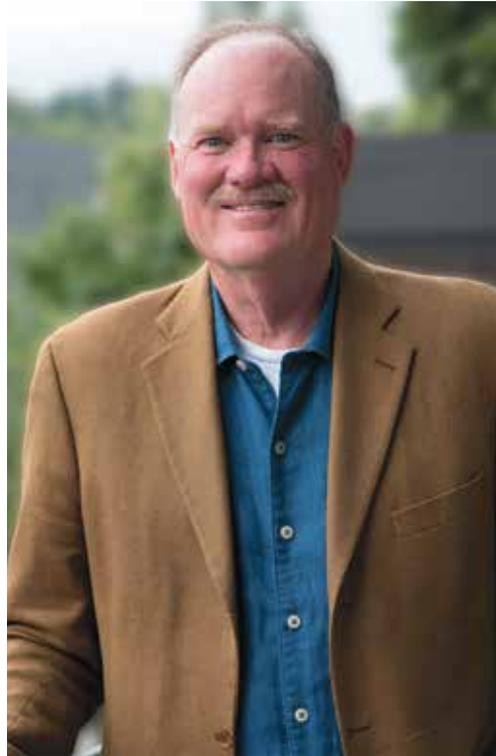


# Jeffrey Bland on Rejuvenating Our Immune System

by Sandra Yeyati

**K**nown worldwide as the founder of functional medicine, Jeffrey Bland, Ph.D., began his career as a professor of biochemistry at the University of Puget Sound, in Tacoma, Washington. In the 1980s, he was chosen by Nobel laureate Linus Pauling to serve as director of nutritional research at the Linus Pauling Institute of Science and Medicine. Bland's expertise and visionary influence helped to popularize science-based nutrition and establish standards for evidence-based formulations, quality ingredient sourcing and ethical manufacturing practices in the natural products industry. Bland is the author of more than 100 peer-reviewed research publications and several bestselling books, most notably *The Disease Delusion*. His latest project is Big Bold Health, a company designed to transform the way people think about the immune system.



ronment and isn't overreacting or underreacting, while still working as you would like it—to defend us.

## *How can we reset our immune system?*

There are two parts to our immune system. One is the adaptive immune system, which produces antibodies that remember what we were exposed to in terms of viruses or bacteria, and can mount a response if we are reinfected. The other, the innate immune system, is the first line of defense, found on our mucosal surfaces like our gastrointestinal tract, our respiratory tract or on our skin. In the last five to 10 years, immunologists have discovered that the innate immune system can be epigenetically retrained to be more in balance through things like time-restricted feeding, regular activity or exercise, predictably getting into REM sleep and the incorporation of plant-derived nutrients called phytochemicals into our diet, which are believed to activate selective autophagy processes. In conjunction with these lifestyle principles, you want to remove exposure to specific chemicals, including agrochemicals, airborne pollutants, heavy metals—things known to increase inflammation.

The innate immune system is cleansed in part through the activity of the lymphatic system, which is circulated by physical motion. If we're not moving, our lymphatic system becomes sluggish. Many types of physical medicine—massage, acupuncture, manipulation, chiropractic—are ways of activating lymphatic draining. This is a very important additional component for the improvement of our immune function.

## *What is Immuno-Rejuvenation?*

Recent discoveries show that exposure to things like a toxin, a serious viral infection or even post-traumatic stress syndrome may create an alarm reaction in our immune system, and the memory of that gets encoded in something called the epigenetic programming of our immune system, becoming a controller of how the immune system functions. This new state of alarm is passed on from immune cell to immune cell, locking the immune system into an imbalanced state that is tipped either towards too much response, which we call inflammation, or too little response, which is immune suppression and increased risk to infection.

A balanced immune system, on the other hand, is resilient and capable of moving forward and backward depending on the exposure that the individual is living through. We believe we can activate Immuno-Rejuvenation through a process built into our body's system of renewal called autophagy. Its discovery won a Nobel Prize in medicine and physiology in 2016.

In the immune system, autophagy selectively prunes damaged cells that are carrying bad epigenetic messages, allowing cells that are not predestined to be alarmed to take over, leading to a rejuvenated, balanced immune system that can be more resilient to the envi-

At Big Bold Health, we put together resources to take people through an assessment of their own immune system by answering a questionnaire and a host of educational assets including videos, podcasts, blogs, recipes and more. You can access these for free on our website, [BigBoldHealth.com](http://BigBoldHealth.com).

### What targeted, phytochemical-rich foods are you excited about?

Himalayan Tartary Buckwheat. Over the millennia of its evolution, this unique plant developed the ability to activate its immune system to defend itself against bugs, pollutants, poor soils, drought, sun. As a result, it has in its genes the ability to produce the highest level of immune-activating phytochemicals of any plant we know—50 to 100 times higher. Human clinical trials indicate that people who consume about 100 grams a day of the whole-meal Himalayan Tartary Buckwheat experience distinctive health advantages, reducing inflammation, lowering blood fats and blood sugar, and improving insulin sensitivity, all of which are conditions related to dysfunctions of the immune system.

### How does the Immuno-Rejuvenation concept relate to women's health?

Women have evolved mechanisms to modulate the immune system to accommodate pregnancy, but that estrogen/androgen balance that controls pregnancy also influences their immune system, and we're starting to learn how it can significantly influence immune cell aging and injury. So this process of selective immune autophagy is very important in women who go on to have the most prevalent cases of autoimmunity, meaning they are more sensitive to some of these things that would produce an immune response that would be inflammatory.

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