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Thank you for subscribing to Dr. Jeffrey Bland's newsletter. Enjoy and share this information, which is for educational purposes only and is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always consult with a qualified healthcare professional when you are in need of advice regarding a medical condition.

In this issue: Wild Plant Foods in the Mediterranean Diet, Berberine and the Gut-Brain Connection, SNIppets: Aromatase, Soy Consumption and Tamoxifen, Nestle Announcements (video)

But first, a quote from the FMU Knowledgebase!

"We are just now beginning to embrace what Dr. Jeffrey Bland taught us many, many years ago, and that is we've got to pay attention to the web -- the web of interacting, interrelating factors that can either conspire to manifest disease or can be looked upon as powerful allies in creating health, wellness, and longevity."

Neurologist David Perlmutter, MD
January 2015 Interview
Functional Medicine Update

Find a link to the January 2015 issue of Functional Medicine Update at the end of this new sletter, and learn more about how to explore Dr. Bland's extraordinary audio archive.

The Role of Wild Plant Foods in the Mediterranean Diet

We know that PPAR agonist drugs are employed to help control diabetes and selective serotonin reuptake inhibitors are used to suppress symptoms of depression. Specialized botanical research now shows us that certain food plants can *simultaneously* exert pleiotropic influence on these and other biochemical pathways—albeit through gentler dietary means that are distinct from the laser-like actions of drugs.

A multi-disciplinary European research team examined [over 100 plants traditionally consumed](#) in Greek, Italian, and Spanish Mediterranean diets for their effects on serotonin reuptake inhibition, PPAR binding, endothelial cell proliferation, inhibition of proinflammatory iNOS (inducible nitric oxide synthase)-related nitric oxide production, acetylcholinesterase inhibition, antioxidative

activities, and polyphenolic contents. They found that wild asparagus, for example, inhibits serotonin reuptake and binds to PPAR γ (peroxisome proliferator activated receptor γ), chicory and walnuts inhibit serotonin reuptake and iNOS-dependent NO production in addition to binding PPAR, barberry leaves inhibit acetylcholinesterase and iNOS NO production and bind PPAR γ , and that grape leaves inhibit acetylcholinesterase. The researchers concluded that these and other wild and semi-wild plants consumed as part of the Mediterranean diet contribute to the improved aging characteristics seen in rural Mediterranean peoples.

In this edition of the FMU, [Dr. Bland describes the metabolic steps](#) by which a Western diet contributes to dysglycemia and explains how phytochemicals and the Mediterranean diet help preserve insulin sensitivity.

Dr. Bland's Latest Video Blog: Nestle Makes Two Big Announcements



Video is one of Dr. Bland's favorite communication tools. Subscribe to his [YouTube channel](#) to never miss an update, and also find many additional videos on the Personalized Lifestyle Medicine Institute [Vimeo page](#).

Second and First Brains on Berberine

Within the last couple of decades, we've learned remarkable things about the human gut that have led to it being called the "second brain":

- every "brain" neurotransmitter has been found in the gut
- the small intestine harbors at least as many neurons as does the spinal cord
- the vast majority of vagal spinal fibers travel FROM the gut TO the brain

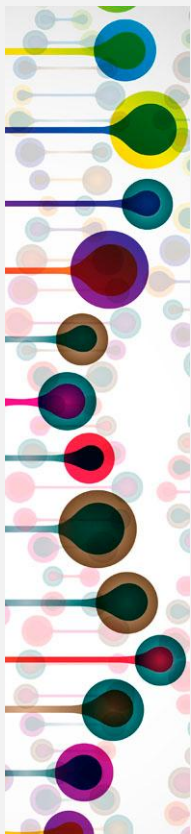
Clearly, our gut actively gathers information, interprets it, and acts upon it. It shares information with the central nervous system, and as an "enteral nervous system" (ENS) helps coordinate our overall response to our environment. The microbiome is a central operator within the ENS, taking data directly from the dietary environment we select for it with each day's food intake as well as from the "commentary" provided by the peptides, fatty acids, endotoxins, bacteriocins, antigens, and other molecules released by digestion and elaborated by the ever-changing members of the gut's community. The microbiome also interacts continuously with the gut-associated lymph tissue (GALT) that mobilizes immune offense and defense, and the composition and balance of our diets and the 2-3 pounds of metabolically active organisms in our microbiota determines the amount of beneficial short-chain fatty acids (SCFAs) available to support the normally rapid growth and turnover of intestinal cells and the integrity of the gut's epithelial barrier.

In this interview with Dr. Bland, [author and clinician Dr. Robert Rountree](#) describes combining his knowledge of the gut-brain connection with the bitter plant alkaloid berberine in successful treatment of dysbiosis by virtue of improving the microbiome's balance among symbiotic, commensal, and parasitic species. He relates that he has never seen negative effects typical of antimicrobial drugs when giving berberine to his patients, and takes it himself. He and Dr. Bland also discuss the importance of bile acids and their receptor interactions in influencing

inflammatory and insulin pathways, and the use of bitter lipotropic nutrients and botanicals to aid bile flow.

Berberine has been shown to beneficially affect cholesterol and triglyceride metabolism through stimulating fatty acid oxidation in skeletal muscle and the liver. In animals with impaired glucose tolerance, it not only [reduced apolipoprotein B levels](#) while raising those of ApoA1 and HDL cholesterol, but also dropped levels of fasting glucose, total cholesterol, free fatty acids, and triglycerides while improving glucose tolerance. Facilitating insulin secretion was found to be one mechanism of action of this phytonutrient. In a recently published article, [berberine \(333 mg thrice daily\)](#) was employed with other supplements to heighten the efficacy of a lifestyle modification program in improving weight and body fat loss, total and LDL cholesterol reduction, apoB/apoA1 ratio, and hsCRP level in overweight individuals. As a bitter alkaloid, berberine is a component of several [plants used to aid biliary tract](#) and digestive function, and can increase bile acid turnover and reduce hepatic lipid accumulation by inhibiting bile hydrolysis in the gut microbiota, reducing hepatic fatty acid uptake, and activating intestinal farnesoid X receptor (FXR) activity, which helps regulate fat metabolism.

Berberine's effects may not be not limited to the digestive tract, however—it may also [improve glucose transport in the brain](#) and has shown [anti-inflammatory activity](#) in [models of Alzheimer's disease](#).



SNiPpets

How significant to health are certain single nucleotide polymorphisms, also known as SNPs?

SNiPpets is an ongoing exploration of this topic. This column is produced by Jeffrey Bland, PhD and the Personalized Lifestyle Medicine Institute.

With This SNP, Soy Intake Paradoxically Modulates Genetic Risk for Prostate Cancer

Though soy consumption is generally associated with reduced risk for prostate cancer, combinations of polymorphisms can interact to modify prostate cancer risk in unexpected ways. In the aromatase gene, a TTTA repeat pattern has been linked to [higher estrogen levels](#) in overweight men. If [this repeat pattern](#) coincides with an rs2077647 SNP for estrogen receptor- α and an rs10046 SNP for aromatase, it increases prostate cancer risk even at high soy intake. However, when it occurs alongside the most common allele for aromatase, prostate cancer risk is reduced despite low soy intake.

Experts Give Soy the Go-Ahead in Tamoxifen Users

Debate has long raged over whether or not soy should be used in concert with tamoxifen in breast cancer patients. After following breast cancer survivors in the Women's Healthy Eating and Living (WHEL) study and discovering that reduction in mortality with higher soy consumption was even greater in women who had used tamoxifen, [a Kaiser Permanente breast cancer research team has weighed in](#), stating that "clinicians no longer need to advise against soy food consumption for women with a diagnosis of breast cancer." [And in this video](#), prominent soy researcher Mark Messina describes why he agrees.



Where in the World is Dr. Bland?

Every year, Dr. Jeff Bland speaks in front of audiences around the world.

Will this be the year your paths cross?

[View Appearances Calendar](#)



Personalized Lifestyle Medicine Institute

Check out what's happening at the Personalized Lifestyle Medicine Institute

With Dr. Bland at the helm, PLMI is growing and expanding its educational outreach. Visit the [PLMI website](#) to learn more about:

- The 2018 Thought Leaders Consortium in Tucson, AZ (October 12-13, 2018)
- Past video presentations that are free to watch in PLMI's online Education Portal
- Other leadership activities and initiatives



FMU KNOWLEDGEBASE

For more than three decades, Dr. Jeff Bland recorded and self-published a monthly audio journal called Functional Medicine Update (FMU). Although he is no longer recording new issues, an archive of content spanning 1997-2016 is free to explore on Dr. Bland's website, and this extraordinary collection is now known as the FMU Knowledgebase. This newsletter began with a quote by Dr. David Perlmutter, who was interviewed in January 2015. To access that issue, click [here](#). To explore the full archive, visit the [FMU Knowledgebase](#).

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