

# THE HEART-GUT CONNECTION – AN INTEGRATIVE HEALTH VIEW

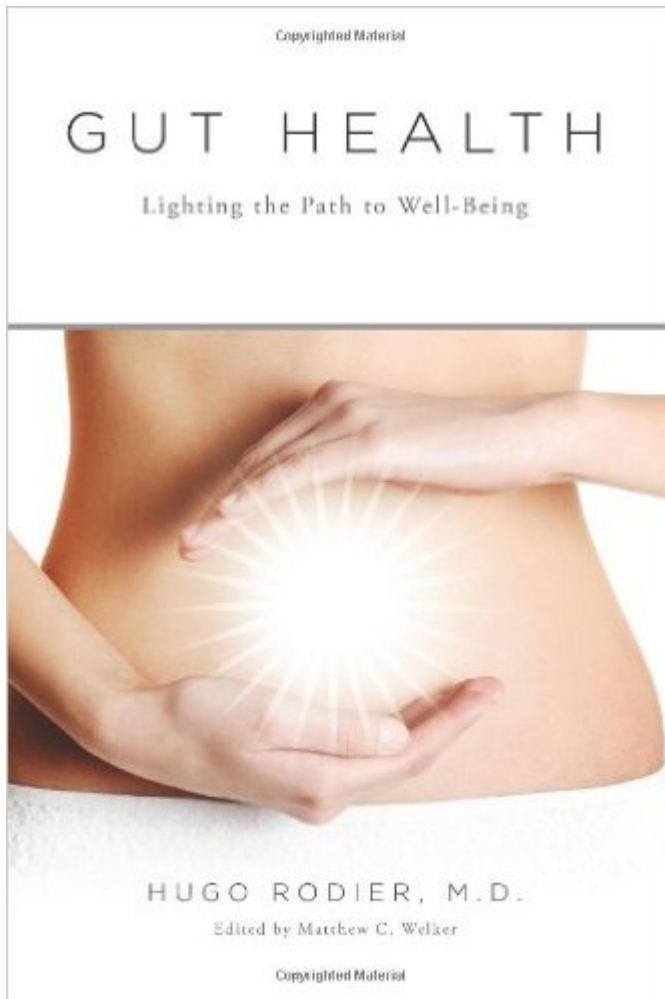
**HUGO RODIER MD**  
Perspectives on INTEGRATIVE MEDICINE

## THE WAY TO A MAN'S GUT IS THROUGH HIS HEART

I recently heard of a patient of mine with no heart disease signs or symptoms die of a heart attack. His cholesterol was normal and his coronaries were shown to be clean—free of plaque—as he slowly deteriorated and died from uncontrollable heart beat irregularities. Interestingly, right before being emergently admitted to the hospital he had some sort of food poisoning at a local restaurant. His bowel movements were frequent and loose as he slipped away. But, being that his electrolytes (minerals, etc.) were within normal range the GUT- HEART connection

was not explored further.

Could it be that the inflammation generated by the infection, or imbalance of gut flora had something to do with the genesis of his heart problem? We will never know, but, there is ample evidence that our intestinal microbiome is at the “heart” of practically all conditions. It does sound farfetched to those who have not followed the burgeoning medical literature on the role of our gut immune system in maintaining our health. But, if you have been studying this website you have hopefully been motivated to eat lots of veggies for the good of your gut microbes who work for you, and your heart.



**Click on the Book Jacket Cover Above for  
Information  
About Dr. Rodier's Full Length Book on  
Gut Health**

## **References**

**The heart and the gut, European Heart J.  
2013;35: 426**

***"The heart and the gut seem to be two***

organs that do not have much in common. However, there is an obvious and clinically relevant impact of gut functions on the absorption of drugs and oral therapies on the one hand. On the other hand, the gut determines the quantity of nutrient uptake and plays a central role in metabolic diseases. Patients with inflammatory bowel diseases appear to have a higher risk for coronary heart disease despite a lower prevalence of 'classical' risk factors, indicating additional links between the gut and the heart. However, they certainly have a 'leaky' intestinal barrier associated with increased permeability for bacterial wall products. An impaired intestinal barrier function will be followed by bacterial translocation and presence of bacterial products in the circulation, which can contribute to atherosclerosis and chronic heart failure (CHF) as recent data indicate. Impaired cardiac function in CHF vice versa impacts intestinal microcirculation leading to a barrier defect of the intestinal mucosa and

*increased bacterial translocation.”*

**Intestinal Immunity and Gut Microbiota in Atherogenesis,**

**J. of Atherosclerosis and Thrombosis 2017;24:110-119**

*“Atherosclerosis is a chronic inflammatory disease. Interventions targeting the inflammatory process could provide new strategies for preventing atherosclerotic cardiovascular diseases (CVD). Previously, we have reported that oral administration of anti-CD3 antibodies, or active vitamin D<sub>3</sub>, reduced atherosclerosis in mice via recruiting regulatory T cells and tolerogenic dendritic cells to the gut-associated lymphoid tissues. From this, it is reasonable to propose that the intestine could be a novel therapeutic target for prevention of atherosclerotic CVD. Recently, the association between cardio-metabolic diseases and gut microbiota has attracted increased attention. Gut microbiota, reported to be highly*

*associated with intestinal immunity and metabolism, were shown to aggravate CVD by contributing to the production of trimethylamine-N-oxide (TMAO), a pro-atherogenic compound. We have also previously investigated the relationship between patient susceptibility to coronary artery disease (CAD) and gut microbiota. We found that the order Lactobacillales was significantly increased and the phylum Bacteroidetes was decreased in CAD patients compared with control patients. In this review article, we discuss the evidence for the relationship between the gut microbiota and cardio-metabolic diseases, and consider the gut microbiota as new potential diagnostic and therapeutic tool for treating CVD."*

**Intestinal microbiota metabolism of L-Carnitine, a nutrient in red meat, promotes atherosclerosis, J. Nature Medicine Epub April 7 2013.**

**Intestinal microbial metabolism of phosphatidylcholine and cardiovascular**

risk. N.  
*England J. Med* 2013; 368:1575

Vascular Disease Is Associated With the Expression of Genes for Intestinal Cholesterol Transport and Metabolism, *JCEM* 2016;102 :326-335

Gut Microbial Metabolite TMAO Enhances Platelet Hyperreactivity and Thrombosis Risk, *J. Cell* 2016;165:111

Regression of Atherosclerosis: The Journey From the Liver to the Plaque and Back,

1. *Arterioscler Thromb Vasc Biol.* 2016;36:226

Ninety percent of cholesterol imbalances are due to liver issues, <https://courses.washington.edu/conj/bess/cholesterol/liver.html>

FOR MORE INFORMATION, GO TO:  
<http://hugorodier.com/>