

## To sequester or not? Introduction

It is well known that the risk factors for COVID-19 related mortality or severe morbidity are associated with many underlying diseases, including diabetes, hypertension, cardiovascular disease, chronic lung disease, cancer, chronic kidney disease, obesity, and smoking. While advanced age is not a disease, it is commonly accompanied by the conditions mentioned above, and a weakened immune system.

As more is known about COVID-19, additional factors leading to a poor outcome are being elucidated. These include genes, environment, and metabolic health.

Your genetic makeup (genotype) can make you more or less resistant to infection by the virus as well as play a role in determining your outcome after being infected.

Environmental pollution has been implicated in the high mortality rates seen in Wuhan, New York City, and northern Italy during the present pandemic.

Unless you plan to move to another location, there's not much you can do about environmental pollution. Similarly, you cannot alter your genotype.

Therefore, it would seem focusing on your metabolic health would make the most sense. Metabolic health is easy to evaluate and readily modifiable in most cases. Upcoming posts will focus on identifying findings in routine blood tests that indicate the state of your metabolic health. Suggestions for improving these parameters will be discussed.

Diabetes, hypertension, and obesity are considered diseases, but they are all symptoms of underlying metabolic dysfunction. Fixing your metabolic health can start with improving your food choices and getting some exercise. For guidance on improving your diet, begin by looking at the food rules I've already posted. If your menu includes sugar, flour, and processed foods, you have a risk factor for poor immune function.

As always should you decide to take on this mission of improving your metabolic health and immune function, you need to take into consideration how these changes will interact with your medications and existing diseases. This may require a consultation with your medical doctor.

Calder, P. C. and S. Kew, The immune system: a target for functional foods? *Br J Nutr*, 2002. 88 Suppl 2: p. S165-77.

Huff, R. D., C. Carlsten, and J. A. Hirota, An update on immunologic mechanisms in the respiratory mucosa in response to air pollutants. *J Allergy Clin Immunol*, 2019. 143(6): p. 1989-2001.