

*Notes: This is the **fifth** in a series of 5 blog posts about COVID-19 and Autonomic Dysfunction. This a pre-publication release that will be featured in a major medical journal.*

Coronavirus Induces Oxidative Stress Leading to Autonomic Dysfunction Often With Delayed Symptom Onset

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CONCLUSIONS

In all, poor brain and cardiac perfusion is often the result of Oxidative Stress mediated P&S Dysfunction and if both are not treated they will augment and amplify each other and their resulting symptoms. Unfortunately, most of the therapies for P&S Dysfunction are off-label. Also, they are most effective at low doses. High doses cause side effects which lead to or are caused by additional P&S Dysfunctions which are induced by these high dose pharmaceuticals. Fortunately, Antioxidants are known to also help treat P&S Dysfunction as well as Oxidative Stress. Either way, P&S monitoring provides an objective, scientifically-based, outcomes-driven assessment of the individual patient's responses to disease, disorder and therapy. This helps to titrate therapy specifically for the individual patient, using the individual as their own baseline. This also helps to identify medications that are not helping and perhaps may be harming the patient.

Relieving Oxidative Stress and the associated P&S Dysfunction helps to relieve lightheadedness and dizziness, fatigue, sleep difficulties, GI symptoms (upper or lower), Anxiety/Depression, difficult to control BP, blood glucose or hormone levels, headache or migraine, brain-fog, cognitive or memory difficulties, etc. In doing so, patients have improved quality of life and productivity, improved outcomes, reduced hospitalizations and re-hospitalizations, and thereby reduced healthcare costs. The additional information from P&S Monitoring with therapy individualized for the patient helps physicians go beyond merely managing the disorder, helping physicians to restore health and promote wellness as well.

DATA AVAILABILITY

Patient data are from patient records and files and are therefore HIPAA protected. Therefore, data availability is limited. You may contact the corresponding author to request access and limited access may be granted.

CONFLICTS OF INTEREST

Dr. Bloom has no conflicts of interest. Dr. Colombo is Senior Medical Director and Chief Technology Officer of Physio PS, Inc., the provider of the P&S Monitoring technology.

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KEY WORDS

Coronavirus, Parasympathetic, Sympathetic, Oxidative Stress, Antioxidants

ABBREVIATIONS

ALA	Alpha-Lipoic Acid
ANS	Autonomic Nervous System
CoQ10	Co-enzyme Q10

COVID-19	Coronavirus (SARS-CoV-2)
P&S	Parasympathetic and Sympathetic
PE	Parasympathetic Excess
POTS	Postural Orthostatic Tachycardia Syndrome
SE	Sympathetic Excess
SW	Sympathetic Withdrawal

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