

Post Covid Syndrome

Leo Galland MD - notes from his interview with Mark Hyman MD and Ronald Hoffman MD

20% to 50% get long hauler syndrome

30% have the risk of Long Term Covid

People who have the highest risk are **women over 50** - asthmatics are at the higher risk

Also people whom have 5 or more symptoms of Covid

According to Mark Hyman up to 80 million Americans may have had it whether they know it or not that means potentially 24 million people potentially could be dealing with Post Covid

Symptoms

Headache

Brain Fog

Muscle Aches - Like CFS - Chronic Fatigue Syndrome

90 days - late symptomology

And or Chronic Lung issues

Shortness of breath

High Blood Pressure - Heart Disease

Risk of more Diabetes - diabetes acidosis - diabetes type 1 can show up

Can show up

Risk of more Alzheimers and Dementia

The impact of **Covid 19 on the brain** (the scariest part) has been well studied in the UK -

Changes in the Brain MRI have been found in post Covid

Loss of every matter associated with higher function - loss of smell and taste

(this process is a type of neuropathy interestingly enough)

Fish Oils - Resolvins - fat soluble B-1 (Benfotamine) and B-12, B-6 and folate - methylated - (Terry Naturally - Healthy Feet and Nerves and Nordic Naturals Fish Oils)

Neuropsychiatric Testing done in the UK found that 30% of people post covid have these brain issues to some degree

Leo Galland has only 2 to 3% of his patients have any post covid issues when they are following his protocol - a high vegetable high polyphenol diet.

William Lee MD - **Covid is a blood vessel disease - it attacks the ACE 2 receptor**

Because it attacks the blood vessels - Covid19 can damage the entire body

The virus can persist for months in the GI tract after infection

ACE2 receptor - it enters cells in acute and long covid - the virus destroys the enzyme

Antibodies follow the spike protein - its like an auto immune response - auto antibodies are common - **they inactivate alpha interferon**

2 or 3 weeks later after the Covid infection - it forms the anti-body - its incredibly complex the complexity of this disease will take years to unravel.

Dysbiosis - the impact of Covid19 in the gut.

Heart Disease has been linked to dysbiosis

Covid causes a loss of diversity - an expansion of yeast and fungi in the gut - leaky gut in the intestines.

Improving the balance of gut bacteria - FP - Fecal bacteria praznizi a keystone bacteria and **Akermansia Mucinifolia** - they are major producers of Butyrate - Butyrate - 75% of the energy in the large intestine is produced by Butyrate

Butyrate gets into the brain - it allows the brain to produce - BDNF

A lack of **Butyrate** will limit BDNF in the brain

An abundance of Butyrate activates a gene that produces BDNF

FP - likes pre-biotic starches - beans - vegetables - avocado - all help FP to grow.

Diet and nourishing the Biome is a key part in working with all aspects of Covid

High Polyphenols

High Fiber Diet

Have the best impact on the body.

Supplements that help the body generate ACE2 - the enzyme destroyed by COVID-19

#1 Get your vitamin D levels up to 50ng/dl in your blood work - 50 - 75

#2 Curcumin - Dr Galland recommends 1,000mg a day - nano particle can be done at lower doses such as Meriva - C3 is one of my favorites - in a study Curcumin rivaled any drug.

#3 Resveratrol - Galland recommends 400 to 600mg a day - although studies have shown benefit starting a 75mg a day

This is his foundation for all stages of Covid19

#4 Quercetin 1,000mg a day - helps prevent the development of Covid - it is a zinc ionosphere in that it drives zinc into the immune system - it inhibits the development of blood clots one of the complications of Covid19

Probiotics - Tundrex - a soil based probiotic (Bacillus Subtilis) - you only take it for 10 days or so. that secretes alpha interferon from the gut - alpha interferon is destroyed by covid - its a cytokine made by the innate immune system (first line of defense - the immune system we were born with) - Alpha interferon kills Covid19.

When you are exposed to a virus your immune system produces alpha interferon to attack a virus.

The covid virus has the ability to turn off your bodies ability to produce alpha interferon - that is one of the reasons it can establish itself so effectively.

Bifido Longum BB536 supports the gut microbiome in Covid 19 also

Also coagulans helps

Mitochondrial Restoration

CoQ10 - regular form 100mg 4x a day - Ubiquinol 100mg - 2x a day - this dose of 400mg a day has been used to treat migraine headaches (a mitochondrial disorder)

Niacin - either regular - or the advanced forms NMN - Nicotinamide Riboside - NAD - it combines well with NAC - glutathione helps the mitochondria

NAC helps make BDNF -

CoQ10 + Niacin + NAC

Alpha Lipoic Acid - Leo Galland uses 600mg a day

Fish oils 2,400 combined EPA+DHA

Look for **POTS syndrome** - check the heart rate - lie down for a while and take your heart rate
- then stand up for 10 minutes
Fat soluble B1 - benfotiamine can help POTS

Sleep

Magnesium Glycinate
Melatonin
L-Theanine

CBD - increases apolins - apolins raise ACE2

NT Factor might help

Anosmia - loss of taste and smell - treat it like a neuropathy -

Bentotiamine - fat soluble B1
Lion's Mane mushroom
Alpha Lipoic Acid
B12, folate, B6

Fisetin a flavonoid found in Strawberries - 100mg a day (Life Extension) research found it beneficial in post stroke
Parkinson's - a high fisetin diet -
Alzheimer's disease and Parkinson's- 100mg a day or higher

Luteolin - Celery is the biggest source - its biggest effect is on the mast cell as an anti-inflammatory - the liposomal form may be the best for absorption
Coffee fruit extract - helps BDNF

Vinpocetine - for Covid Toes - 20 to 40mg a day - you can take up to 60mg a day

Quercetin will help Vaccines work with less side effects - take a lot before you get a shot.
1,000mg

A small clinical trial from Turkey showed that health care workers taking quercetin 250 mg twice a day, along with vitamin C and bromelain (an enzyme found in pineapple stem) had a 92% reduction in acquiring antibodies to SARS-CoV-2, compared to health workers not taking quercetin[109]. This implies that these workers were far less likely to have become infected during the trial. Quercetin was considered to be the active ingredient. The intended role of vitamin C and bromelain was to increase quercetin absorption.

- Many lifestyle factors influence ACE-2 activity in your body. Regular aerobic activity is good; high intensity interval training is even better. A whole foods diet rich in plant-based polyphenols is good. Herbs and spices like spearmint, sage, thyme, rosemary and oregano contain the polyphenol rosmarinic acid, which supports ACE-2 activity.

Emphasize natural food sources of ursolic acid like berries, especially cranberries, whole apples, prunes, peppermint tea, and savory herbs like rosemary, oregano, thyme, sage and turmeric. Rosemary, thyme and sage are also good sources of rosmarinic acid, a natural promoter of ACE2 activity

Substances include curcumin, luteolin, resveratrol, and thymoquinone. Ground flax seed, spearmint, sage, rosemary, thyme, oregano, and black tea may also be helpful.