Release Notes 2021-08-17: : This is a draft of a table I expect to put into my updated notes on covid-19 and aging. Comments or questions welcome but caveat emptor. So far, I'm pleased that results do not appear to be trivially wrong or misdirected and wrong predictions may be informative. Note that this is a draft of an excerpt from a larger more detailed work in preparation on a controversial unresolved medical problem and should not be used for any particular purpose.

(To cite, see **BibTex** at end)

I posted a set of notes around July 2020 on **LinkedIn** [10] that included a list of nutrients predicted to help covid-19 patients based on a developing theory of aging and experience optimizing vitamins for dogs. The following is a table I intend to put in my updated "Age Distribution of covid-19 " notes that compares the original ideas to recent developments. I try to compare expectations, falling somewhat short of explicit predictions, from the original notes to results and observations obtained over the last year. With no obvious effective cure in sight and problems with vaccines, the additional information obtained over this time make the original ideas more compelling as they pertain to both covid-19 and aging.

Prior Expectations and New Results			
Expectation [10]	Supporting	Refuting	Follow up
Acute ⇓Arg	Observed [21]		
Acute ⇓Citrate	Observed [2] [18]		
Acute ⇓Trp	Observed [21]		
Chronic ⇓Trp		Rarely Observed [6]	Look at Dynamics[16]
Chronic Membrane Leak	⇑Taurine in Long covid [6]		Find HIT
⇑Phe	Observed [21]		
⇑Tyr live longer	Drosophila [19]		
⇓Tyr		Generally ⇑[21] [15] [1]	Isomer Specific Assay
Citrate Helpful	vs oral Gln [13] (non-covid [5])		GS ⇓(?) [23]
Citrate Helpful	Gln small benefit [4]		GS ⇓(?) [23]
Citrate Helpful	elevated Glu/Gln ratio [6]		GS ⇓(?) [23]
Copper over Zinc	Zn failed [24] [25] or harmful [22]		direct Cu test
VK for ET	Ubiquinol, CoQ help [20]		

Going Forward: Tests and Predictions		
New Prediction	Tests or Analysis	Trial solution
Vitamin D small effect	correlate, not primary cause [see text]	distraction
Tyr isomers ⇑	isomer resolving assay	VK, Tyr maybe Phe
Taurine ⇑due to HIT	speed up protein cycling	essential amino acids
anticoagulant fail [12] [11]	assay damaged fibrinogen	VK and citrate
VK for Gln	sequester ROS generators [9].	VK and citrate
Histidine helpful	personal observations, found ⇓[8]	histidine
Trp helpful	Trp in cancer sarcopenia[16]	Trp

TABLE I: Summary of literature reports since initial suggestions from July 2020. Generally, vitamin K is used as an anti-oxidant due to like sequetration of ROS generators. GS may be sensitive to a lot of disease related effects like ROS and TCA depletion. TAT remains as a big unknown here. **ET** : Electron Transport, **GS** : Glutamine synthetase, **HIT** : High-Infidelity Translation, **TAT** : Tyrosine AminoTransferase, **VK**: Vitamin K

The most important failure so far is the lack of obvious consistent mesured tyrosine depletion. This may just be balanced dynamics with BH4, breakdown of blood or muscle, and tyrosine aminotransferase but the important possibility remains that analogs of p-tyrosine are produced [14] [7] [3] . Further, correlation with clotting status could make a nice theory regarding clots sequestering ROS generators. As roles for m-tyrosine and tyrosine aminotransferase in other conditions are research topics, much potential exists for synergies with these other areas for any related investigations.

I'm posting this because I think the original hypothesis is still competitive but also think that specific investigations would be useful for assessing this theory or related ones. In the absence of even informal testing, beyond a few patients taking a drink containing citrate and nitrate while on a pulse oximeter [17], the clinical and lab results combined with my own continued experience feeding dogs, points to increased likelihood of producing informative results in more controlled tests.

Some tests would include,

1. Actually try the nutrients on covid-19 patients
2. Informal testing of at least components while on heart monitor or pulxe oximetere [17]

3. Determine if covid-19 "tyrosine" contains signifcant isomer content or analogs.
4. Measure p-tyrosine isomers/analogs as function of coagulation status.
5. Consider citrate as an alternative to glutamine to stimulate glutamine synthetase.
6. Determine a dose response curve for vitamin K

Citation information,may need to manually insert url or find software like *TooBib* that can do that (although I'm not sure *TooBib* can always get this from **LinkedIn** url's),

@TECHREPORT{mmarchywka-MJM-2021-007-.1-table,
AUTHOR = {M.J. Marchywka},
TITLE = { Update to Covid-19 Age Distribution Notes },
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ADDRESS = {306 Charles Cox , Canton GA 30115},
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