



An Anti-Inflammatory Rehabilitation Framework for Long COVID Recovery

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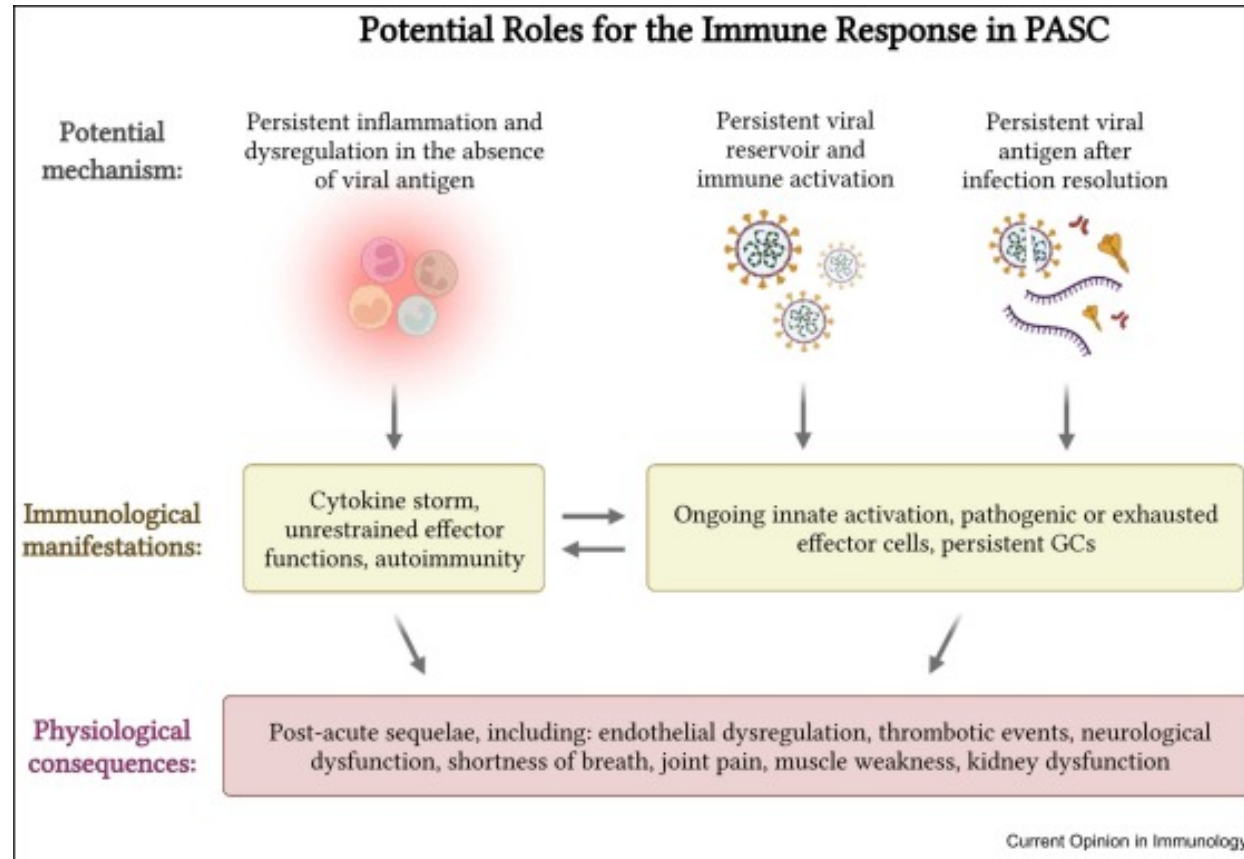
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- I do not have financial conflicts of interest to disclose concerning this presentation.

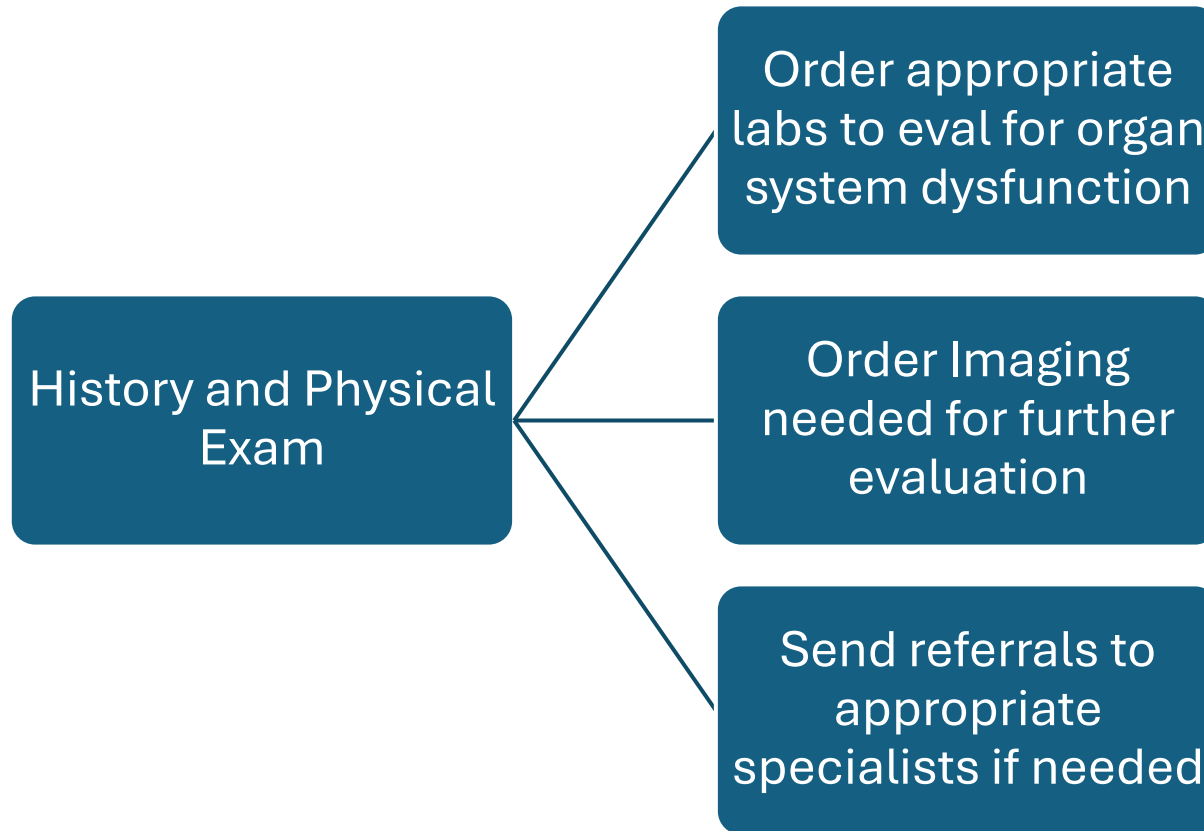
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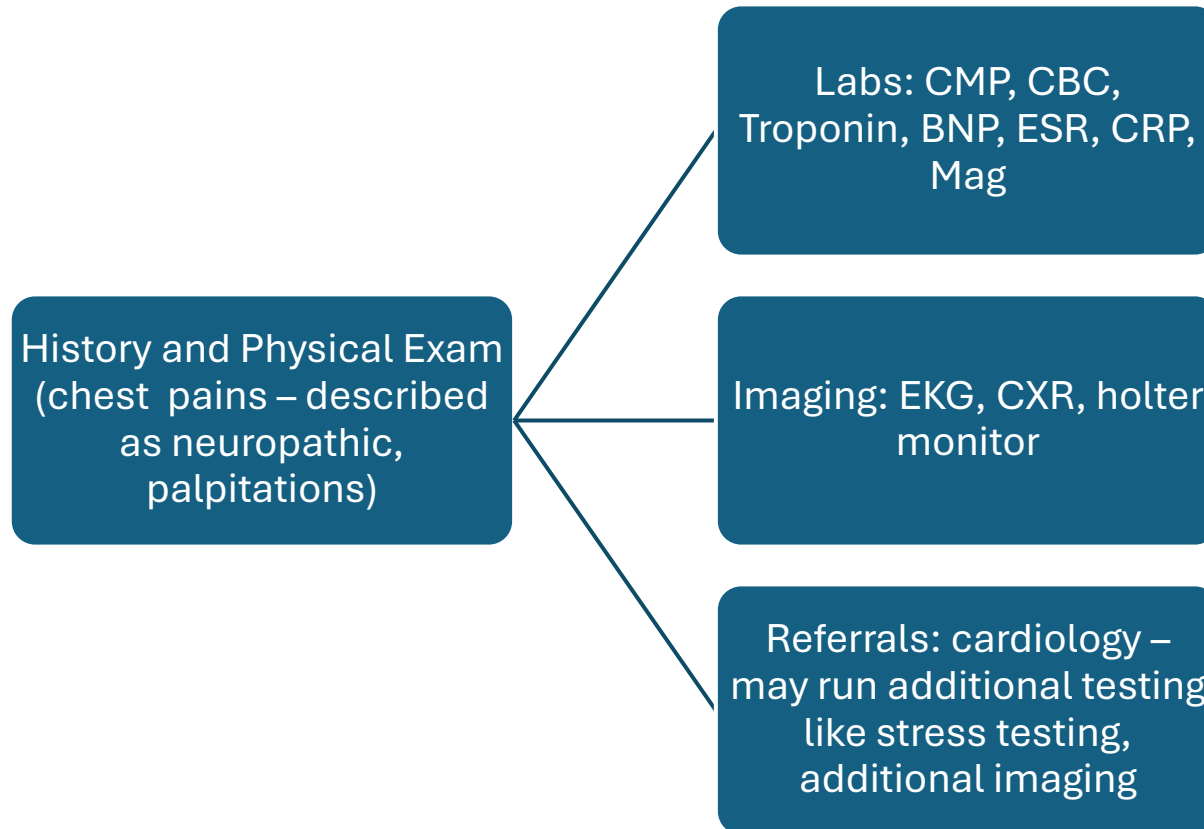
Long COVID proposed Mechanism of Inflammation



Initial Evaluation - Workup



Initial Evaluation – Workup Example



Initial Visit at Long Covid Clinic

- If appropriate screenings have been completed prior to our visit, we can initiate next steps of rehabilitation at the initial visit. If additional screenings are needed, may need to delay additional rehabilitation strategies until involved organ systems are optimized.
 - Chest pain will need to be evaluated prior to initiating a rehabilitation program safely.

Anti-inflammatory Lifestyle Changes

- Exercise - physical activity as tolerated, pacing as needed
- Sleep Hygiene - keep a regular bedtime, sleep hygiene, sleep for at least 7 hours per night
- Hydration - drink until urine is clear
- Diet - Anti-inflammatory diet such as mediterranean diet recommended especially avoiding processed foods (others like FOD-MAP or low histamine diet may also be helpful)
- Stress management - Discussed benefits of minimizing stress and taking frequent breaks as needed

Anti-inflammatory Lifestyle Changes

- Exercise
 - Formal rehabilitation program – PT/OT/ST – pacing focused, building endurance
 - Home vs. Outpatient setting
- Sleep
 - Consider medication if severe and have already tried non-pharm measures
 - Melatonin, trazodone
- Stress management
 - Referral to long covid psychologist
 - Eval for depression, anxiety, PTSD etc. initiate medication management if needed

Long COVID Rehabilitation Strategies

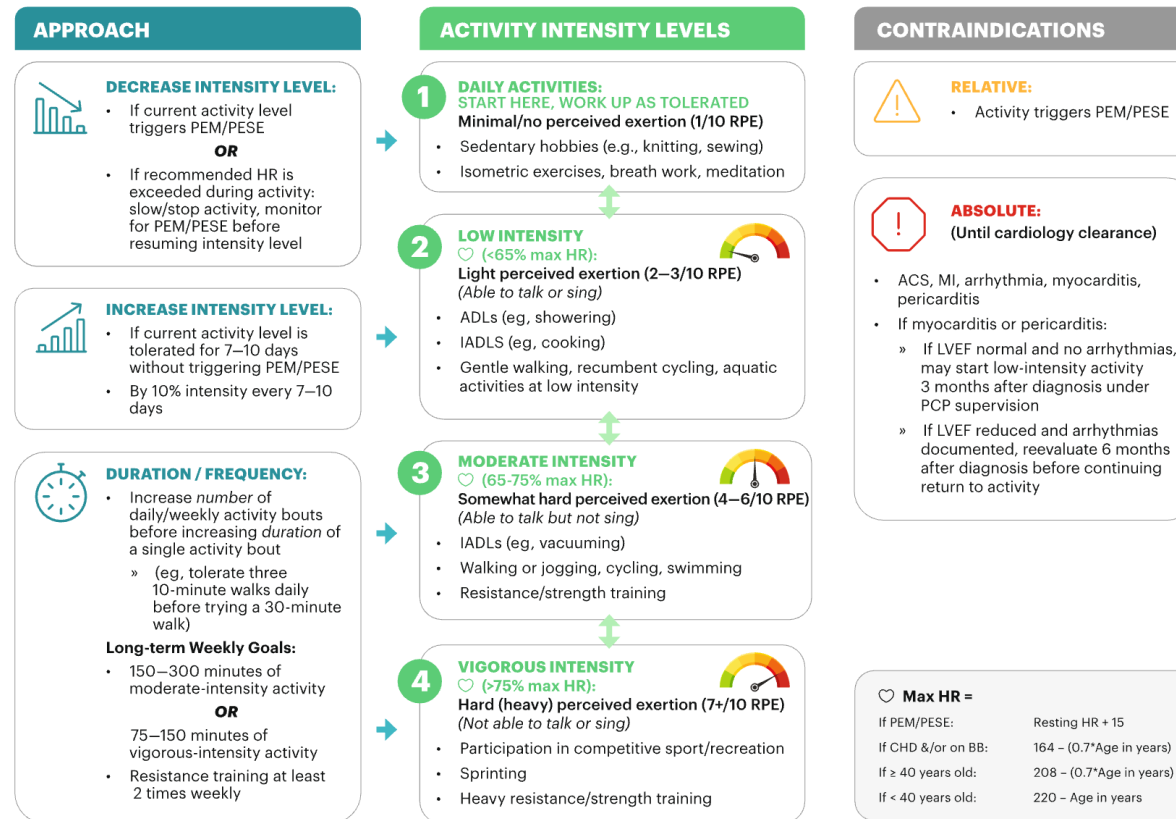
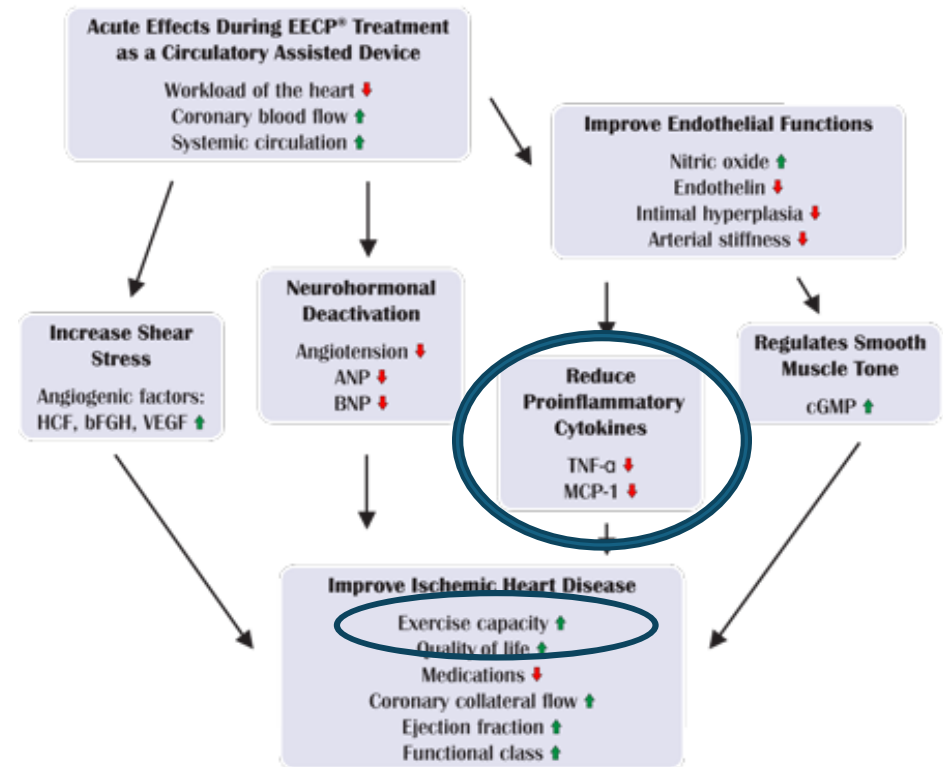


FIGURE 1 Return to physical activity in Long COVID. ACS, acute coronary syndrome; ADL, activities of daily living; BB, beta blocker; CHD, coronary heart disease; HR, heart rate; IADL, instrumental activities of daily living; LVEF, left ventricular ejection fraction; MI, myocardial infarction; PEM, postexertional malaise; PESE, postexertional symptom exacerbation; RPE, rate of perceived exertion.

Long COVID Rehabilitation Strategies – 4 P's

- Pacing
- Planning
- Prioritizing
- Positioning

Long COVID Rehabilitation Strategies - EECP



Anti-inflammatory Treatment - Supplements

- Curcumin: 500mg BID (has anti-inflammatory and immunomodulating properties and has been demonstrated to repolarize macrophages).
- Vitamin C: 500mg BID (vitamin C inhibits histamine and repolarizes monocytes).
- Probiotic (Kefir, probiotic yogurt and/or Bifidobacterium ex. Daily Body Restore) together with Prebiotics (e.g. XOS Prebiotic, Bio Nutrition Pre-Biotic) to normalize the microbiome given that prolonged dysbiosis has been reported following COVID-19 infection and can contribute to inflammation
- NAC recommended for brain fog symptoms - antioxidant and precursor to glutathione

Anti-inflammatory Treatment - Medications

Histamine Blockade

- H1 (ceterizine, fexofenadine, or loratidine) + H2 (famotidine) blocker scheduled for 2 months then eval continued need vs. intermittent use

Low Dose Naltrexone

- Compounded - can start at 1.5mg and increase to max of 4.5mg nightly

Rehabilitation Based Planning

- Consider the need for work accommodations
- Goals for return to work if time off is needed to focus on recovery
- Should patient receive maximum medical improvement and still unable to work – assist with disability paperwork

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