

# POST VIRAL RECOVERY PROGRAM

A Workshop Series for Health Care Professionals Seeking a Root Cause Approach



# POST VIRAL RECOVERY:

LIFESTYLE INTERVENTIONS

CASE STUDIES

PRACTICE IMPLEMENTATION

# Review: Workshop 2

## What We Covered

- ❖ Program components, patient enrollment
- ❖ Patient journey
- ❖ Registry data
- ❖ Specialty and foundational supplements
- ❖ Implementing the protocol on Fullscript platform
- ❖ Questions and discussions

# Workshop 3

## What We Will cover

- ❖ Lifestyle interventions for Post Viral Recovery
- ❖ Patient enrollment/patient journey
- ❖ Group visits program
- ❖ Case studies
- ❖ Economic impact of Long COVID
- ❖ How to build a Post Viral Recovery Program bundle
- ❖ What's next
- ❖ Q&A with panel

# LIFESTYLE LEARNING OBJECTIVES



Understand the benefits of specific lifestyle factors for recovery from post-viral conditions



Review resources for plant forward anti-inflammatory diet and how to advise using them with participants



Become familiar with the lifestyle handouts provided for sleep, stress, movement, and community



Understand how to implement lifestyle tools clinically as part of the Post -Viral Recovery Program

# KEY LIFESTYLE INTERVENTIONS OVERVIEW



# KEY LIFESTYLE INTERVENTIONS OVERVIEW

- Food & Nutrition
- Sleep
- Movement & Exercise
- Stress Modification
- Social Connection
- Nutritional Supplementation



# WHY LIFESTYLE?

- In a prospective cohort study of 2000 women. Adherence to a healthy lifestyle prior to COVID- 19 infection was inversely associated with risk of Post- COVID Conditions (PCC) in a dose-dependent manner.
- Compared with those who did not have any healthy lifestyle factors, those with 5 or 6 had half the risk of PCC.



Wang S, Li Y, Wang S, Li Y, Yue Y, et al. Adherence to Healthy Lifestyle Prior to Infection and S, Li Y, Yue Y, et al. Adherence to Healthy Lifestyle Prior to Infection and Risk of Post-COVID-19 Condition. JAMA Intern Med. 2023;183(3):232–241.



# FOOD & NUTRITION

- Including plant-based foods, colorful and nutrient dense, with high quality protein and fats.
- Eliminating processed foods and drinks.



# FOOD & NUTRITION

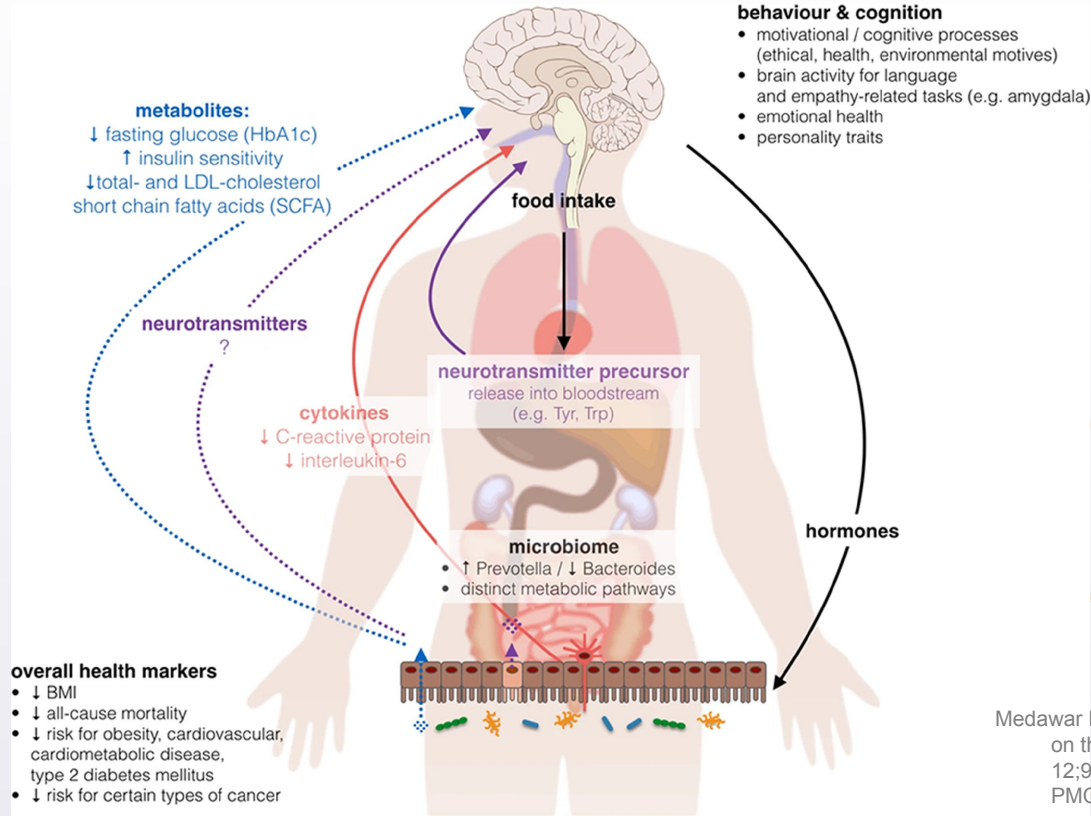
- Plant-based nutrition is associated with less hospitalization and death from acute covid.
- And greater recovery from acute and post covid.



Kim H, Rebolz CM, Hegde S, LaFiura C, Raghavan M, Lloyd JF, et al. Plant-based diets, pescatarian diets and COVID-19 severity: a population-based case-control study in six countries. *BMJ Nutrition, Prevention & Health*. 2021 May 18;

Storz MA. Lifestyle Adjustments in Long-COVID Management: Potential Benefits of Plant-Based Diets. *Curr Nutr Rep*. 2021 Dec;10(4):352-363. doi: 10.1007/s13668-021-00369-x. Epub 2021 Sep 10

# FOOD & NUTRITION



Medawar E, Huhn S, Villringer A, Veronica Witte A. The effects of plant-based diets on the body and the brain: a systematic review. *Transl Psychiatry*. 2019 Sep 12;9(1):226. doi: 10.1038/s41398-019-0552-0. PMID: 31515473; PMCID: PMC6742661.

# FOOD & NUTRITION



REVIEW THE PLANT-BASED WHOLE30 RULES

## The Plant-Based Whole30 Program

Empowering you to change your health, habits, and relationship with food—on your terms. Let's do this.

TAKE THE FIRST STEPS



Improve your energy, sleep, cravings, mood, and self-confidence with the Whole30's new whole food plant-based approach.

Melissa Urban, Whole30 Co-Founder



PLAN

Use our signature resources to plan your successful Plant-Based Whole30

[START PLANNING](#)



COOK

Discover delicious flavors and ingredients in our collection of compatible recipes

[START COOKING](#)



LEARN

Find answers to your questions and troubleshoot your Plant-Based Whole30

[GET SUPPORT](#)



# FOOD & NUTRITION

Resources in the package include, among others

- Program Rules >
- Plant-Based Whole30 Prep Pack >
- Grocery Guide >
- Shopping List >
- Meal Planning >
- Plant-Based Recipes >



# FOOD & NUTRITION

## TIPS for Coaching on Eating for Post Viral Recovery

- Personalize to individual GI symptoms, intolerances, energy, and budget
- Use a health coach or nutritionist
- Advise on time restricted eating
- Rx low glycemic diet
- Optimize fermented foods and prebiotics
- Reduce histamines if symptoms correlate
- Suggest spices for added benefit & taste



# FOOD & NUTRITION: Additional Resources

## IFM Lifestyle Course Tools

- Eating a Balanced Diet
- Micronutrients: Phytonutrients
- Mindful and Intuitive Eating
- The Core Food Plan Comprehensive Guide
- Phytonutrient Food Plan Comprehensive Guide



# SLEEP

“COVID-19 and sleep disorders can induce BBB leakage via neuroinflammation, which might contribute to the ‘coronasomnia’ phenomenon. The new studies suggest that the control of sleep hygiene and quality should be incorporated into the rehabilitation of COVID-19 patients.”

Coiro MJ, Asraf K, Tzischinsky O, Hadar-Shoval D, Tannous-Haddad L, Wolfson AR. Sleep quality and COVID-19-related stress in relation to mental health symptoms among Israeli and US adults. *Sleep Health*. 2021;7(2):127–33

Gupta R, Grover S, Basu A, Krishnan V, Tripathi A, Subramanyam A, et al. Changes in sleep pattern and sleep quality during COVID-19 lockdown. *Indian J Psychiatr*. 2020;62(4):370–378

Jahrami HA, Alhaj OA, Humood AM, et al. Sleep disturbances during the COVID-19 pandemic: A systematic review, meta-analysis, and meta-regression. *Sleep Med Rev*. 2022;62:101591. doi:10.1016/j.smrv.2022.101591

Alzueta E, et al. An international study of post-COVID sleep health. *Sleep Health*. 2022 Dec;8(6):684-690. doi: 10.1016/j.sleh.2022.06.011. Epub 2022 Sep 23. PMID: 36163137; PMCID: PMC9501615.





# SLEEP

- Both quality and quantity matter
- Improving sleep hygiene >
- Supplements that support sleep
- Practicing ultradian rhythm break or URB >



# SLEEP: Improving Sleep Hygiene



One way to improve sleep quality and quantity is to have daily routines and a bedroom environment that promotes consistent uninterrupted sleep.

Find personalized experiments to achieve sleep goals

Alzueta E, et al. An international study of post-COVID sleep health. *Sleep Health*. 2022 Dec;8(6):684-690. doi: 10.1016/j.sleh.2022.06.011. Epub 2022 Sep 23

Semyachkina-Glushkovskaya O, Mamedova A, Vinnik V, Klimova M, Saranceva E, Ageev V, Yu T, Zhu D, Penzel T, Kurths J. Brain Mechanisms of COVID-19-Sleep Disorders. *Int J Mol Sci*. 2021 Jun 28;22(13):6917. doi: 10.3390/ijms22136917. PMID: 34203143;

# SLEEP: Ultradian rhythm breaks

“Ultradian rhythm breaks are like “sleep snacks” — not naps, per se, but similar in their potential to return a tired and depleted body to higher function,”

(Pilar Gerasimo)



- Stand up and stretch
- Do some yoga poses or get outside
- Walk to the kitchen and refill your water glass or grab a cup of herbal tea
- Refuel with a healthy snack (avoid refined carbs)
- Visit with a colleague or friend or engage with your pet
- Run an errand or do chores
- Write or draw in a journal
- Read something enjoyable that isn't on a phone, tablet, or computer screen
- Let your mind wander

# SLEEP:

## Additional Resources

IFM Lifestyle Course resources:

- Effects of Poor Sleep
- The Sleep Questionnaire
- Mindfulness for Insomnia and Sleep Disorders
- Suggestions for Better Sleep

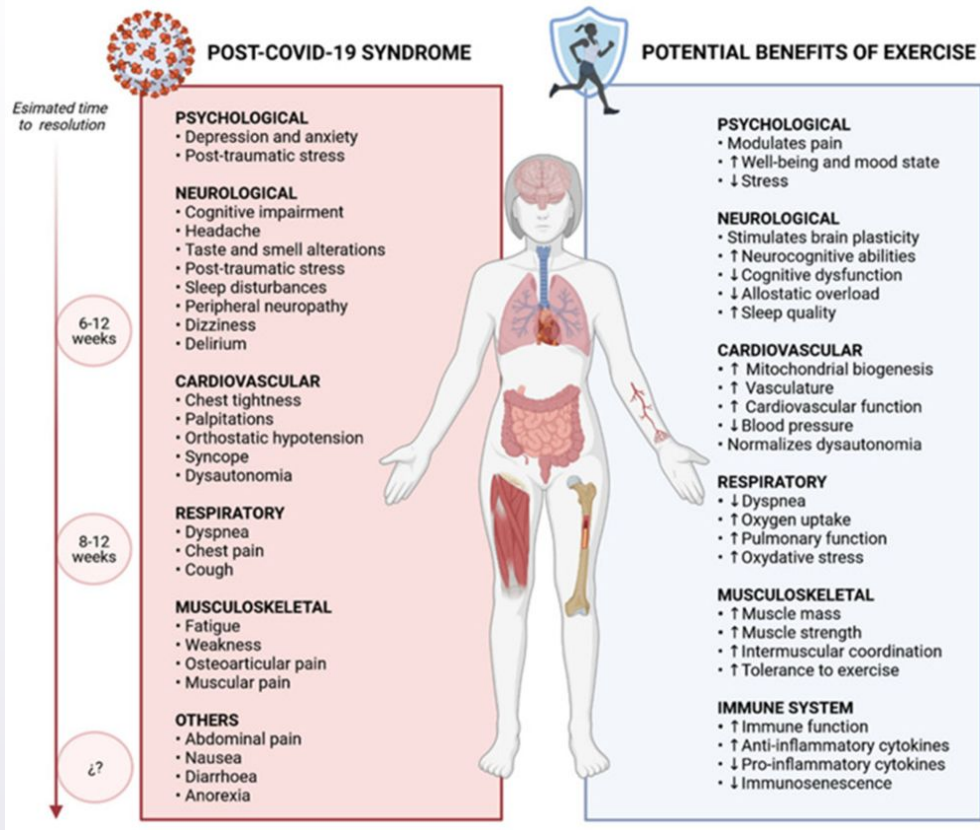


# MOVEMENT & EXERCISE >>

- Moderate, regular activity is essential to functioning of immune system, circulation, and tissue oxygenation
- Pacing of movement is essential.



# MOVEMENT as Post COVID Treatment



Jimeno-Almazán A, Pallarés JG, Buendía-Romero Á, Martínez-Cava A, Franco-López F, Sánchez-Alcaraz Martínez BJ, Bernal-Morel E, Courel-Ibáñez J. Post-COVID-19 Syndrome and the Potential Benefits of Exercise. Int J Environ Res Public Health. 2021 May 17;18(10):5329. doi: 10.3390/ijerph18105329. PMID: 34067776; PMCID: PMC8156194.

# TIPS TO GET MOVING

These experiments may help keep your body's stress response in check and help bring more physical activity into your day:

- Personalize it
- Pace it
- Start small
- Plan it out
- Step outside
- Utilize daily activities
- Take it slow
- HIIT It
- Find support



# MOVEMENT:

## Additional Resources

IFM Lifestyle Course resources:

- The Exercise History Questionnaire
- Effects of Physical Inactivity
- Tips to Incorporate Mindful Movement Every Day
- SMART Goals for Exercise
- And more





# STRESS MODIFICATION >>

Techniques to modify the impact of stress on augmenting inflammation and decreasing immune function



# STRESS MODIFICATION



- Acute COVID is associated with elevated evening cortisol levels.
- Long COVID is associated with low cortisol levels and low activation of the HPA axis.
- Stress modification and adrenal restoration are treatment for post -viral conditions

Lamontagne S.J., Pizzagalli D.A., Olmstead M.C. Does inflammation link stress to poor COVID-19 outcome? *Stress Health*. 2021;37(3):401–414.

Sandrini L., Ieraci A., Amadio P., Zara M., Barbieri S.S. Impact of acute and chronic stress on thrombosis in healthy individuals and cardiovascular disease patients. *Int. J. Mol. Sci.* 2020;2

Yavropoulou MP, Tsokos GC, Chrousos GP, Sfikakis PP. Protracted stress-induced hypocortisolemia may account for the clinical and immune manifestations of Long COVID. *Clin Immunol.* 2022 Dec;245:109133.

# STRESS MODIFICATION

Stress triggers are highly individual.

Chronic stress can lead to physical symptoms such as headaches, high blood pressure, sleep issues, and digestive problems. It can also impact emotional and mental health and manifest as depression, anxiety, and panic attacks.



# STRESS: MIND and MENTAL HEALTH

Worsened by stress, mental health and performance impacts post-viral recovery:



- Mental health conditions are often new or worse post COVID and appropriate referrals and support are imperative to recovery
- Brain fog is a common symptom this program addresses
- Mindset matters in recovery

Taquet M, et al. Neurological and psychiatric risk trajectories after SARS-CoV-2 infection: an analysis of 2-year retrospective cohort studies including 1 284 437 patients. *Lancet Psychiatry*. 2022;9:815–827. doi: 10.1016/S2215-0366(22)00260-7.

Schou TM, Joca S, Wegener G, Bay-Richter C. Psychiatric and neuropsychiatric sequelae of COVID-19 - A systematic review. *Brain Behav Immun*. 2021 Oct;97:328-348. doi: 10.1016/j.bbi.2021.07.018. Epub 2021 Jul 30.

R. Zion a, Kengthsagn Louis a, Rina Horii a b, Kari Leibowitz a, Lauren C. Heathcote c d, Alia J. Crum. Making sense of a pandemic: Mindsets influence emotions, behaviors, health, and wellbeing during the COVID-19 pandemic. *Social Science & Medicine*. Volume 301, May 2022, 114889

# STRESS MASTERY TECHNIQUES >>

Like stress triggers, what helps someone navigate stressful situations varies. Some common experiments include:



- Relaxation techniques
- Meditation
- Finding support from others
- Being physically active (note that this can add stress to the body but may help address mental and emotional stress).
- Spending time in nature
- Diversion tactics
- Gratitude practices
- Laughter, joy, and play
- Engaging in arts, music, and crafts

# STRESS: MIND and MENTAL HEALTH TIPS



- Refer people to mental health providers as appropriate
- Listen deeply, and offer support
- Acknowledge grief over losses
- Set expectations for a variable course of improvement
- Ask specifically what is working/improving
- Support strengths
- Work with mindset to envision health
- Assist people to find community and reduce isolation

<https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects/care-post-covid.html>

Burton A, Aughterson H, Fancourt D, Philip KEJ. Factors shaping the mental health and well-being of people experiencing persistent COVID-19 symptoms or 'long COVID': qualitative study. BJPsych Open. 2022 Mar 21;8(2):e72.

# STRESS MODIFICATION: Additional Resources

IFM Lifestyle Course resources:

- Self -Care questionnaire
- Strategies for Transforming Stress
- Cultivating Mindfulness and Self Awareness
- Mindful Breathing



# SOCIAL CONNECTION >>

People impacted by long COVID reflect how isolated they continue to feel as others move on with lifting of the pandemic restrictions.

Connecting participants to community, and especially to support of people experiencing similar losses is essential to recovery.





# COMMUNITY RESOURCES

- <https://www.weforum.org/agenda/2021/08/long-covid-symptoms-illness-pandemic>
- <https://www.survivorcorps.com>
- <https://www.longcovid.org>
- <https://longcovidalliance.org>



# SOCIAL CONNECTION: Additional Resources

IFM Lifestyle Course resources:

- Importance of Social Support and Relationships
- The Self- Care Questionnaire
- Practicing Gratitude with the IFM Gratitude Journal





# Patient Journey

# PATIENT INTAKE

- The lifestyle intervention starts with patient intake
- This includes gathering medical history information, assessing past and current tissue damage through lab assessment and checking symptoms



# PATIENT JOURNEY

- Patient Enrollment and Completion of Intake Forms
- Initial Visit and Review of History and Intake Forms
- 2-week check-in with health coach
- Visit 2: After completing 30-day surveys
- Visit 3: After completing 90-day surveys followed by formulation of next steps and referrals

# PATIENT INTAKE

## ENROLLMENT



### PHASE 1

- ❖ Symptom Checklist (WHO Case Report Form)
- ❖ Timeline (History of Illness and lifestyle history)
- ❖ Biomarkers (Tissue & Inflammation)
- ❖ Evaluation of Function (PROMIS-29\*)
- ❖ Baseline Supplements

Baseline Nutrition, Lifestyle Coaching and Support

**PHASE 2**  
Targeted Supplements – based on symptoms, progression, processes and dysfunction



# NUTRITIONAL SUPPLEMENTATION

A curated suite of nutritional product solutions to target the five main drivers of Long COVID.

- ACE-2 mediated damage (tissue damage)
- Viral persistence
- Chronic inflammation
- Mitochondrial dysfunction
- Gut / Microbiome dysbiosis



# FIRST 30-DAYS SUPPLEMENT PROTOCOL

## Specialty Nutritional Supplements

- Arterosil  
2 caps 2x/day
- ITIS Formula  
2 caps 3x/day
- Tollovid  
3 caps 4x/day
- MegaSporeBiotic  
1cap/day for 7 days, then  
2caps/day to complete one  
bottle
- MegaPrebiotic  
N/A

## Foundational Supplements

- MitoCore [MVit + AntiOx]  
2 caps 2x/day
- Vitamin K2 with D3  
1 cap 2x/day with food
- OmegaGenics® EPA-DHA 1000  
1000 mg 2x/day
- Designs for Health® Magnesium  
Chelate  
200 mg 2x/day
- Vital Nutrients Quercetin 250 mg  
2 caps 2x/day
- Vital Nutrients Coenzyme Q10 100 mg  
1 cap once/day



# 31-TO-60 DAYS SUPPLEMENT PROTOCOL

## Specialty Nutritional Supplements

- Arterosil\*  
1 cap 2x/day
- ITIS Formula  
2 caps 3x/day
- Tollovid\*  
2 caps 4x/day for 7 days then 1 cap 2x/day for 30 days
- MegaSporeBiotic\*  
2caps/ day to complete one bottle
- MegaPrebiotic\*  
3 caps a day

## Foundational Supplements

- MitoCore [MVit + AntiOx]  
2 caps 2x/day
- Vitamin K2 with D3  
1 cap 2x/day with food
- OmegaGenics® EPA-DHA 1000  
1000 mg 2x/day
- Designs for Health® Magnesium Chelate  
200 mg 2x/day
- Vital Nutrients Quercetin 250 mg  
2 caps 2x/day
- Vital Nutrients Coenzyme Q10 100 mg  
1 cap once/day

# 61-TO-90 DAYS SUPPLEMENT PROTOCOL

## Specialty Nutritional Supplements

- Arterosil  
1 cap 2x/day
- ITIS Formula  
2 caps 3x/ day
- Tollovid\*  
1 cap 2x/day for 7 days
- MegaSporeBiotic\*  
N/A
- MegaPrebiotic  
3 caps a day

## Foundational Supplements

- MitoCore [MVit + AntiOx]  
2 caps 2x/day
- Vitamin K2 with D3  
1 cap 2x/day with food
- OmegaGenics® EPA-DHA 1000  
1000 mg 2x/day
- Designs for Health® Magnesium Chelate  
200 mg 2x/day
- Vital Nutrients Quercetin 250 mg  
2 caps 2x/day
- Vital Nutrients Coenzyme Q10 100 mg  
1 cap once/day

Helping people understand the why they are doing each action



and what to do is part of the keys to restoring hope.



# Group Medical Visits

**Dr. Kara Parker, MD**

Faculty, Department of Family Medicine  
Director of Group Medical Visits  
Hennepin Healthcare Whittier Clinic

# PVRP Group Medical Visit Components



Scaled education on the benefits of and resources for specific Lifestyle factors for recovery after COVID



Group instruction and exploration on Whole 30, plant based anti-inflammatory diet tailored to each person's needs



Group teaching on the specialty and foundational supplements for post Viral recovery



Time for support, connection, questions, and group practices for each part of the program

# PVRP Lifestyle Group Visit - Our Topics

- ❖ Overview of program, Intros, COVID & Post COVID story
- ❖ Food & Nutrition
- ❖ Sleep & Mood
- ❖ Movement & Exercise
- ❖ Stress Modification
- ❖ Brain and Microbiome
- ❖ Mitochondria

7 week series, 2 hour virtual visit sessions



# PVRP Group Medical Visits- Our Structure:

- ❖ Start with a mind body exercise to center
- ❖ Ask a question relevant to each weekly topic
- ❖ Teach on physiology, science, and tips and encourage discussion and sharing
- ❖ End with a long form mind-body exercise and closing take-aways or actions
- ❖ Empower participants to practice self-care during the visits



# PVRP Group Medical Visits Stats/ Insights:

July 2020-May 2023: 8 groups (161 patients),  
2 groups using the protocol

- ❖ The Lifestyle and supplements (protocol) fit well in a GV format
- ❖ I have learned on care of pts w LC by listening to pts w LC share needs & wins
- ❖ Patients who feel alone, isolated, and misunderstood benefit from connection
- ❖ Benefits multiply for pts and practitioners in the care and presence of others







# Patient Case

## KH

**Dr. Kara Parker, MD**

Faculty, Department of Family Medicine  
Director of Group Medical Visits  
Hennepin Healthcare Whittier Clinic

# PVRP Patient Case KH



- ❖ 50 yo female mother of 4, naturopathic doctor and business owner.
- ❖ Second Moderna vaccine before her first COVID infection 6/2021 with a 4-6 week recovery period.
- ❖ Had COVID 2 more times before referral to the PVRP late 2022 realizing that she was not recovering and may have long COVID.

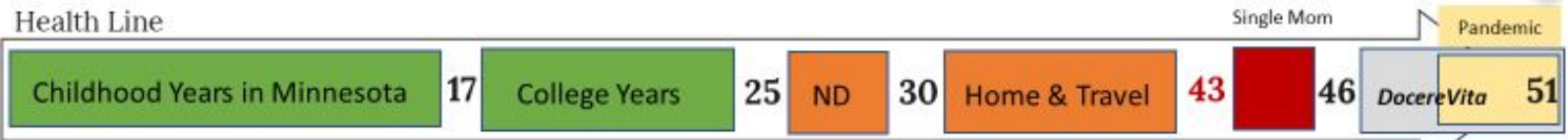
# PVRP Patient Case KH

Symptoms at presentation:

- ❖ TX resistant skin rashes
- ❖ Laryngitis and coughing up blood
- ❖ Severe fatigue
- ❖ Cognitive changes/brain fog
- ❖ Post exertional malaise
- ❖ Joint and muscle pain
- ❖ Disturbance of sleep
- ❖ Mood change
- ❖ Sudden onset menopause



# Timeline with Pertinent History



**Childhood Years in Minnesota**

- Breast-fed 6 month
- Tonsils removed
- Multiple Tick bites
- Standard
- Head trauma age 7
- Visual change after head trauma
- Mono/EBV

**College Mn, Co, & Or**

- Mono/EBV
- other infections
- Head traumas/whiplash
- Visual challenges

**Back to MN Minnesota**

- High volume hours
- Life & Work Pressure
- PCOS
- Stress of Private Practice
- Travel demands
- Four Kids nursed
- Weight Gain

**Phoenix from the Flame**

- Lost Brother ~ Grief
- Stress of Divorce
- Single Parent Pressures
- Weight Loss
- Growth & Rebirth
- Changed Career Path
- Sacred Union/Partnered
- Relocated
- New Bz Model

What are your specific treatment goals?  
What are you hoping to achieve?

Answers, get my energy and brain power back, stop feeling hopeless. I stopped menstruating with the June 2022 covid, my 50th Bday, has some skipped periods before that. NO menopause symptoms at all.

Not sure if my brain fog, fatigue, borderline depression/hopelessness is from covid, post-menopause, or from retriggered old dormant chronic infections that reactivated.

Looking for help to determine how to manage the long-haul symptoms and discern if they are triggered CMV, EBV, and old chronic Lyme.



# KH: Assess Supplements and Lifestyle

## Before COVID

- Very healthy diet
- Daily intense exercise
- Deep sleep
- Supportive marriage & community
- High eu-stress with small business, practice, and family life, leaning in
- Supplements appropriate for a seasoned FX Med practitioner

## After third COVID

- Diet healthy, but low energy to shop, cook
- Unable to exercise
- Insomnia and early waking
- Relationship grief on all levels
- Stress increased as energy lagged and business struggled
- Increased supplements but not feeling better

## Benchmarking Our Success

Post COVID Function Scale  
(3-point scale adopted by the NIH RECOVER Initiative and translated into 25 languages)

- ❖ <0.5 point decline = insignificant
- ❖ 0.5 - 1.0 point decline = clinically significant
- ❖ >1.0 point decline = excellent

# Patient Outcomes – KH

4 months after first patient enrollment

## Post COVID Function Scale

- ❖ Significant change 2  $\Rightarrow$  0 . . . resolution of symptoms & dysfunction

## PROMIS-29: 7 domains of function plus a global pain measure

- ❖ Physical Function: increased from 18th to 26th percentile
- ❖ **Fatigue: decreased from 93rd to 62nd percentile**
- ❖ **Anxiety: decreased from 98th to 58th percentile**
- ❖ **Depression: decreased from 92nd to 46th percentile**
- ❖ Sleep Interference: unchanged
- ❖ **Social Participation: increased from 10th percentile to 42nd percentile**
- ❖ **Pain Interference: decreased from 75th to 20th percentile**



# CASE STUDY: AH

Dr. Patrick Hanaway, MD



# AH: Demographics

- ❖ 77 yo male, writer
- ❖ Height = 5' 9"
- ❖ Weight = 155#
- ❖ BMI = 22.9

PMHx: Depression/ Anxiety  
Reactive Airway Disease  
PTSD

Vaccine x2 (Moderna) March/ April, 2021  
COVID Sept. 2021



# AH: Diagnoses

## Long COVID x 15 months

What are your main health concerns?

- ❖ Fatigue,
- ❖ breathlessness,
- ❖ loss of balance,
- ❖ headaches,
- ❖ dry cough,
- ❖ body aches,
- ❖ muscle cramps.



# AH: Treatments

Week 1 – Begin Lifestyle Modification

Week 2 – Begin Protocol

- ❖ Tollovid x 15 days (3 caps QID)
- ❖ 'ITIS' 2 caps TID x 90d
- ❖ Arterosil 2 caps BID x 30d, then 1 cap BID x 60d
- ❖ Mitocore (B-Vitamin + AntiOx) 2 caps BID x 90d
- ❖ Vitamin D 5000IU qD x 90d
- ❖ EPA/ DHA 1000mg 2 caps qD x 90d

Week 8 – Resume Tollovid x 30 days (3 caps QID) with taper

Whole30 Food Plan  
Gradual Exercise Plan



# AH: Diagnoses

## Long COVID x 15 months

What are your main health concerns?

- ❖ Fatigue
- ❖ Breathlessness
- ❖ Loss of balance
- ❖ Headaches
- ❖ Dry cough
- ❖ Body aches
- ❖ Muscle cramps



## Benchmarking Our Success

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- ❖ 0.5 - 1.0 point decline = clinically significant
- ❖ >1.0 point decline = excellent

# Patient Outcome – AH

4.5 months after first patient enrollment

## Post COVID Function Scale

- ❖ Significant change 2 ⇒ 1 (50% reduction)

## PROMIS-29: 7 domains of function plus a global pain measure

- ❖ Physical Function: increased from 16th to 31st percentile
- ❖ Social Participation: increased from 34th percentile to 79th percentile
- ❖ Fatigue: decreased from 98th to 34th percentile
- ❖ Anxiety: decreased from 84th to 16th percentile
- ❖ Depression: decreased from 58th to 18th percentile
- ❖ Sleep Interference: decreased from 96th to 42nd percentile
- ❖ Pain Interference: decreased from 79th to 62nd percentile

# Economic Impact of Long COVID

Laurie Hofmann, MPH



Estimated Total Cost of Long COVID = \$3.7 trillion  
Average healthcare cost per patient = \$9,000

**Table 1: The Economic Cost of Long COVID**

<b>Impact</b>	<b>Value (\$ billion)</b>
Reduced quality of life	\$2,195
Reduced earnings	\$997
Increased medical spending	\$528
<b>Total cost</b>	<b>\$3,719</b>

[https://scholar.harvard.edu/files/cutler/files/long\\_covid\\_update\\_7-22.pdf](https://scholar.harvard.edu/files/cutler/files/long_covid_update_7-22.pdf)



# PRACTICE IMPLEMENTATION

## How to Build and Offer a Bundled Program

Tom Blue  
Laurie Hofmann



# Post Viral Recovery Program “Bundle”

## What’s Included?

- Patient intake forms
- Lifestyle tools, handouts, resources, reference papers
- 3 provider visits (visit 1: 1 hour; visits 2 & 3: 30 mins ea)
- 2 coaching visits (30 mins each)
- Specialty supplements
- Foundational supplements
- Baseline, 30-day, 60-day, and 90-day follow-up surveys

# Pricing the Bundle



Cost account for the bundle  
(time & materials)



Account for acquisition cost  
and overhead



If billing payers, identify covered  
services and account for  
associated revenue

# Post Viral Recovery Program 90-Day Supplement Protocol

	<b>Month 1</b>	<b>Month 2</b>	<b>Month 3</b>	<b>Total Retail</b>	<b>Practice Margin</b>
Specialty Supplements	\$933	\$290	\$190	\$1,413	\$495
Foundational Supplements*	\$168	\$168	\$168	\$ 504	\$176
Totals	\$1,101	\$458	\$358	\$1,917	\$671



What's Next?

**Patient Registry Goal:  
100 new patients who  
complete the 90-day  
program based using  
updated protocol by  
9/30/2023.**

- ❖ Interested in joining our learning community?
- ❖ Complete and submit interest form [here](#)

## Next Steps

### What would you like to see us cover?

- ❖ Special Topics Workshops
- ❖ Master Classes
- ❖ Learning Community Case Studies
  - Learn from our working group and your colleagues
  - Present your own patient cases

**AndHealth has committed funding (nutritional supplements) for 20 patients of practitioners employed at Federally Qualified Health Centers.  
[info@ovationlab.com](mailto:info@ovationlab.com)**



# RESOURCES

[www.ovationlab.com/PVRResources](http://www.ovationlab.com/PVRResources)

# Recommended Education Programs and Online Courses

The American Academy of Anti-Aging Medicine (A4M)



Use the code **VIRAL200** for \$200 off your registration fee  
Longevity Fest 2023 – December 14-16, 2023

The Academy of Integrative Health & Medicine (AIHM)



Use the code **OVATION100** for \$100 off your registration fee to the October Conference  
Annual Conference - October 5-8, 2023

The Institute for Functional Medicine (IFM)



Use the code **OVATIONLAB10** for 10% off your registration fee  
Applying Functional Medicine in Clinical Practice™ May 2023 (AFMCP) - online  
Advancements in Clinical Research and Innovative Practices in Functional Medicine –  
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Lifestyle: The Foundations of Functional Medicine – on-demand, online

Personalized Lifestyle Medicine Institute (PLMI)



Is COVID Long-Haul a disease of the gut – May 30, 2023, online

# THANK

# YOU





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