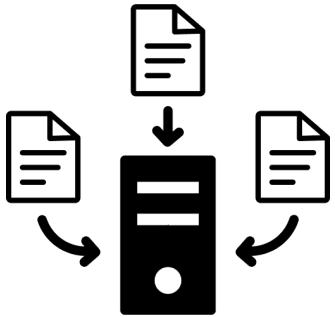
# A data-driven approach to Long COVID and COVID vaccine injury treatment

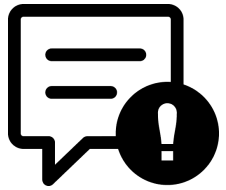


LO8ng Haul Wiki
Glenn Chan
LongHaulWiki.com

# Highlights

These interventions likely cause more **harm** than good:

- Exercise
- COVID vaccines
- SSRI anti-depressants (selective serotonin reuptake inhibitor)
- TCA anti-depressants (tricyclic antidepressant)



HBOT looks like a proven treatment for Long COVID.

These interventions are **promising**:

- Pacing strategies
- Diet
- Fasting
- Magnesium
- Antihistamines
- LDN (low-dose naltrexone)
- DAO enzymes
- Ivermectin
- Statins

# Sections

1. Treatments where high-quality evidence is available in the form of Randomized Controlled Trials.
2. Treatments where only lower-quality survey data is available
    a. The data helps find unusual **reactions** / negative experiences with interventions.
    b. **Promising treatments**
3. What's on the horizon

# Randomized controlled trials (on Long COVID)

# HBOT (Hyperbaric Oxygen Therapy) - Success

Study details:

- The Shamir Medical Center in Israel funded a randomized controlled trial of HBOT.
- Control group participants were blinded with very mild ‘sham’ HBOT.  This keeps the placebo effect the same in both groups.
- The trial was pre-registered at NCT04647656.  This helps safeguard against unreliable results fabricated through data mining.
- The results paper: https://doi.org/10.1038/s41598-022-15565-0

# HBOT trial results

Improvements were mild.  The score improvement was modest- **5.9%.**

## Table 2 Neurocognitive performance changes.

From: Hyperbaric oxygen therapy improves neurocognitive functions and symptoms of post-COVID condition: randomized controlled trial

| | HBOT | | | | Control | | | | p-value baseline | Net effect size* | ANOVA (group-by-time) interaction | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pre | Post | p-value** | Change | Pre | Post | p-value** | Change | | | F | p-value |
| N | 37 | | | | 36 | | | | | | | |
| Score | 98.3 ± 11.1 | 104.1 ± 7.2 | **0.0001** | 5.8 ± 7.9 | 98.9 ± 8.5 | 101.3 ± 8.9 | 0.0105 | 2.4 ± 5.4 | 0.821 | 0.495 | 4.469 | 0.038 |
| Memory | 93.7 ± 13.4 | 102.0 ± 10.9 | **0.0001** | 8.3 ± 11.2 | 94.9 ± 12.2 | 102.1 ± 8.7 | **0.0000** | 7.2 ± 8.5 | 0.695 | 0.111 | 0.226 | 0.636 |
| Executive function | 103.5 ± 13.1 | 109.0 ± 8.2 | **0.0029** | 5.6 ± 10.6 | 102.5 ± 10.3 | 103.8 ± 10.5 | 0.2526 | 1.3 ± 6.8 | 0.725 | 0.477 | 4.159 | 0.045 |
| Attention | 97.3 ± 16.0 | 101.9 ± 9.0 | 0.0292 | 4.6 ± 12.4 | 99.6 ± 8.2 | 99.4 ± 10.1 | 0.8495 | − 0.3 ± 8.3 | 0.434 | 0.463 | 3.914 | 0.052 |
| Information processing speed | 94.8 ± 14.2 | 102.4 ± 13.0 | 0.**0003** | 7.6 ± 11.4 | 94.4 ± 14.2 | 98.3 ± 17.7 | 0.0734 | 3.9 ± 12.7 | 0.910 | 0.303 | 1.673 | 0.200 |
| Motor skills | 102.4 ± 12.6 | 105.3 ± 8.3 | 0.0827 | 2.9 ± 10.0 | 102.9 ± 8.4 | 102.9 ± 9.0 | 0.9639 | 0.1 ± 6.7 | 0.858 | 0.338 | 2.079 | 0.154 |

Data are presented as mean ± SD; Bold, significant after Bonferroni correction; * Cohen's d net effect size; ** pre-post treatment/ sham P-value. The follow up assessments were performed 1–3 weeks after the last treatment session.

# Leronlimab (CCR5 antagonist) - Not a success

- Unfortunately, small clinical trial on 56 patients failed to prove a statistically significant benefit over placebo
  - “Although **the study was not designed to show statistically significant differences** due to the small sample size of 56 patients, clinically meaningful improvements in leronlimab over placebo were observed for cough, stuffy/runny nose, shortness of breath, tightness of chest, feeling of fast heartbeat, fatigue, muscle aches/cramps, muscle weakness, joint pain/swelling, chills/shivering, feeling hot or feverish, difficulty in concentration, sleep disturbance/insomnia, headache, dizziness, tingling/numbness, sense of taste, and sense of smell.” (Source: press release dated June 21, 2021)
- Same mechanism of action as **maraviroc**

# Patient survey data for Long Haul

# Treatment Outcomes survey

The survey and its preliminary analysis can be found at https://react19.org/treatment-outcomes/

The reality is that many patients are engaging in medical self-experimentation.  The survey tries to aggregate all of that data.

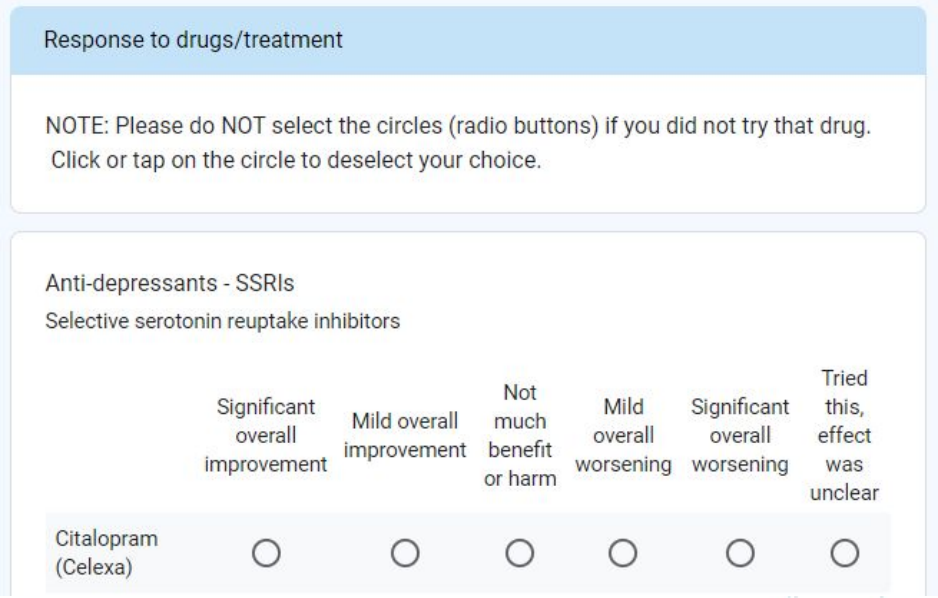
*Corrected charts are from Oct 20 rather than July.

# Scoring system used to rank treatments

A simple scoring system is used for analysis:

- 3 points for “significant overall improvement
- 1 point for “mild overall improvement”
- 0 points for “not much benefit or harm”, “effect was unclear”
- -1 point for “mild overall worsening”
- -3 points for “significant overall worsening”

The **Risk score** only assigns points for worsening: 0,0,0,-1,-3. It is a signal for risk and poor outcomes.



Response to drugs/treatment

NOTE: Please do NOT select the circles (radio buttons) if you did not try that drug. Click or tap on the circle to deselect your choice.

Anti-depressants - SSRIs

Selective serotonin reuptake inhibitors

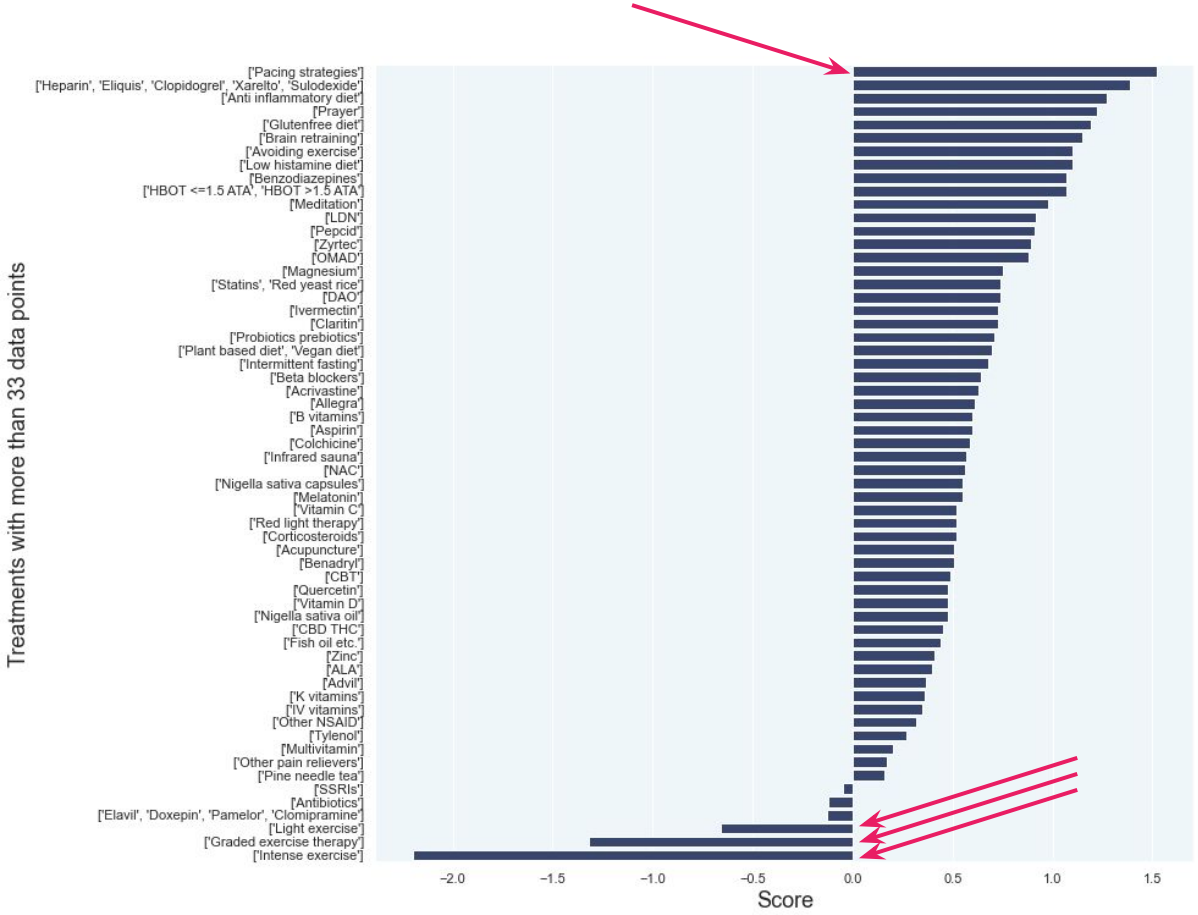
| | Significant overall improvement | Mild overall improvement | Not much benefit or harm | Mild overall worsening | Significant overall worsening | Tried this, effect was unclear |
|---|---|---|---|---|---|---|
| Citalopram (Celexa) | ○ | ○ | ○ | ○ | ○ | ○ |

# Exercise and energy management

The most obvious finding is that most surveyees reported worsening from exercise:

- Intense exercise (with sweating)
- Light exercise (no sweating)
- Graded exercise therapy

**Pacing strategies** (e.g. ‘spoon theory’) ended up scoring #1. Pacing strategies consist of planning out uses of energy and not exceeding an individual’s limit (e.g. by avoiding chores, showering, etc.).



# Only physical over-exertion was surveyed

The survey did not ask about mental exertion such as holding a conversation for too long, reading a book, working a desk job, etc.  It is likely that too much mental exertion can also cause symptoms to worsen.

## Exercise and activity-related only

| | Treatments with more than 0 data points | Score | Risk score | # of data points (out of 304 surveyees) |
|---|---|---|---|---|
| 1 | [Pacing strategies] | 1.52 | -0.02 | 119 |
| 2 | [Avoiding exercise] | 1.10 | -0.09 | 186 |
| 3 | [Light exercise] | -0.66 | -1.07 | 195 |
| 4 | [Graded exercise therapy] | -1.32 | -1.57 | 53 |
| 5 | [Intense exercise] | -2.20 | -2.36 | 133 |

# Resources on pacing strategies

[MEpedia article on spoon theory]

[MEpedia article on pacing]

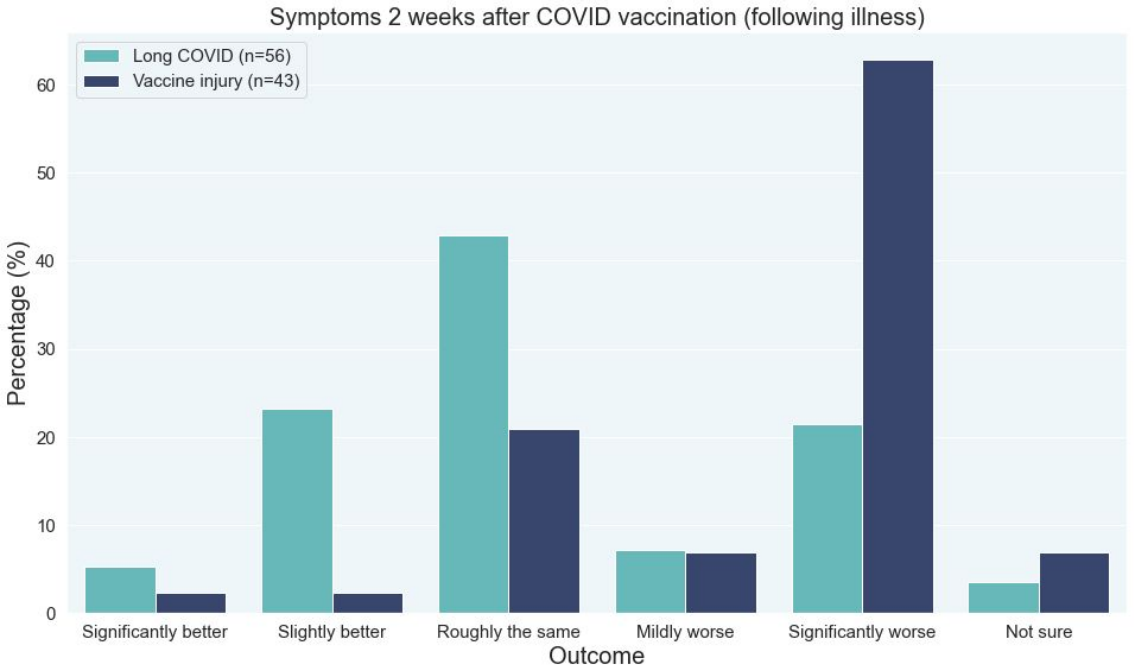
# Long haul patients have unusual negative reactions to drugs, supplements, and other interventions

# Long haulers react negatively to COVID vaccines at unusually high rates

Out of the tens of thousands of clinical trial participants, **3** have gone public with their injuries so far. The rate of injury in healthy people is likely **less than 1 in 100**.

Long COVID patients seem to report significant worsening of symptoms at a rate of around **1 in 5**. This is *much* higher than 1 in 100. The rate is even higher in vaccine injured patients who are re-vaccinated.

**Source**: [React19 Risk Factors survey] (Survey #3).



# The Treatment Outcomes Survey shows unusual reactions

**Corticosteroids** and **antibiotics** are generally considered to be lower-risk drugs. They are in the top 10 when sorted by risk (out of the 60 most popular interventions). **Statins** are also rated poorly.

**Acupuncture** is generally considered to be very low risk. Patients are reporting a high rate of worsening for some unknown reason.

| | Treatments with more than 33 data points | Score | Risk score | # of data points (out of 304 surveyees) |
|---|---|---|---|---|
| 1 | [Intense exercise] | -2.20 | -2.36 | 133 |
| 2 | [Graded exercise therapy] | -1.32 | -1.57 | 53 |
| 3 | [Light exercise] | -0.66 | -1.07 | 195 |
| 4 | [Elavil, Doxepin, Pamelor, Clomipramine] | -0.13 | -0.60 | 47 |
| 5 | [Celexa, Lexapro, Fluvoxamine, Prozac, Paxil, ... | -0.05 | -0.57 | 111 |
| 6 | [Beta blockers] | 0.64 | -0.47 | 81 |
| 7 | [Colchicine] | 0.59 | -0.47 | 34 |
| 8 | [Tetracyclines, Flox antibiotics, Penicillins,... | -0.12 | -0.44 | 95 |
| 9 | [Corticosteroids] | 0.52 | -0.38 | 105 |
| 10 | [Other pain relievers] | 0.17 | -0.38 | 60 |
| 11 | [Statins, Red yeast rice] | 0.74 | -0.28 | 53 |
| 12 | [Acupuncture] | 0.51 | -0.27 | 90 |
| 13 | [HBOT <=1.5 ATA, HBOT >1.5 ATA] | 1.07 | -0.27 | 55 |
| 14 | [Benzodiazepines] | 1.07 | -0.23 | 61 |
| 15 | [IV vitamins] | 0.35 | -0.22 | 63 |
| 16 | [Other NSAID] | 0.32 | -0.20 | 74 |
| 17 | [LDN] | 0.92 | -0.19 | 52 |
| 18 | [Allegra] | 0.61 | -0.19 | 54 |
| 19 | [CBD THC] | 0.45 | -0.18 | 98 |
| 20 | [Benadryl] | 0.51 | -0.17 | 47 |

# Some interventions likely cause more harm than good in long haulers

1. **Exercise**
2. **COVID vaccines**
3. **SSRIs**
4. **TCAs**

The current evidence suggests that these interventions cause more harm than good and should be avoided. Average scores are highlighted in yellow.

The balance of evidence might shift if higher-quality evidence becomes available.

| | Treatments with more than 33 data points | Score | Risk score | # of data points (out of 304 surveyees) |
|---|---|---|---|---|
| 1 | [Intense exercise] | -2.20 | -2.36 | 133 |
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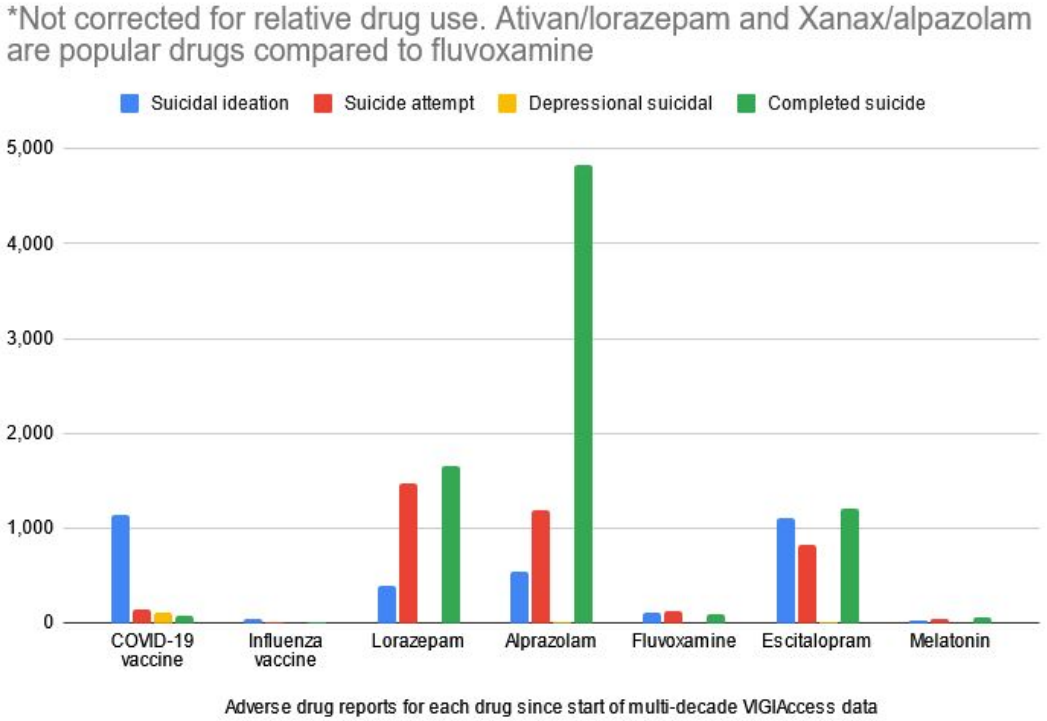
# Lesser-known dangers of benzodiazepines (and SSRIs)

While patients rate benzodiazepines highly, **please be careful**. They can lead to severe withdrawal problems.

The VIGIAccess database suggests that there are high rates of completed suicide for benzodiazepines (and SSRIs). These The **green** bars in the chart on the right show completed suicides. Survey data may not accurately reflect these dangers.

For the vaccine injured, high rates of suicidal ideation may be a contraindiction for benzodiazepines and SSRIs.



# Using experimental treatments to fix the problems caused by experimental treatment is not always a good idea!

# Promising treatments

# Promising treatments

- **Pacing strategies** (discussed earlier)
- **HBOT**
- Possibly MCAS-related:
  - **Diet**
  - **Antihistamines**
  - **LDN**
  - **DAO enzymes**
- **Fasting**
- **Magnesium**
- **Ivermectin**
- ? Blood thinning drugs
- **Statins**
- ? Mental and alternative treatments, e.g. prayer

| | Treatments with more than 33 data points | Score | Risk score | # of data points (out of 304 surveyees) |
|---|---|---|---|---|
| 1 | ['Pacing strategies'] | 1.52 | -0.02 | 119 |
| 2 | ['Heparin', 'Eliquis', 'Clopidogrel', 'Xarelto... | 1.39 | -0.02 | 44 |
| 3 | ['Anti inflammatory diet'] | 1.27 | -0.02 | 49 |
| 4 | ['Prayer'] | 1.22 | 0.00 | 89 |
| 5 | ['Glutenfree diet'] | 1.19 | -0.04 | 126 |
| 6 | ['Brain retraining'] | 1.15 | -0.10 | 39 |
| 7 | ['Avoiding exercise'] | 1.10 | -0.09 | 186 |
| 8 | ['Low histamine diet'] | 1.10 | -0.04 | 138 |
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| 12 | ['LDN'] | 0.92 | -0.19 | 52 |
| 13 | ['Pepcid'] | 0.91 | -0.17 | 99 |
| 14 | ['Zyrtec'] | 0.89 | -0.08 | 111 |
| 15 | ['OMAD'] | 0.88 | -0.10 | 51 |
| 16 | ['Magnesium'] | 0.75 | -0.03 | 215 |
| 17 | ['Statins', 'Red yeast rice'] | 0.74 | -0.28 | 53 |
| 18 | ['DAO'] | 0.74 | -0.03 | 39 |
| 19 | ['Ivermectin'] | 0.73 | -0.11 | 79 |
| 20 | ['Claritin'] | 0.73 | -0.08 | 96 |

*MCAS = Mast Cell Activation Syndrome

# HBOT

**HBOT at pressures *above* 1.5 ATA had better reported outcomes** than 1.5 ATA or below.

HBOT was one of the highest-rated treatments on the survey. The 2.0 ATA HBOT study from Shamir Medical Center found modest improvements but did not find a cure.

## Anti-microbials

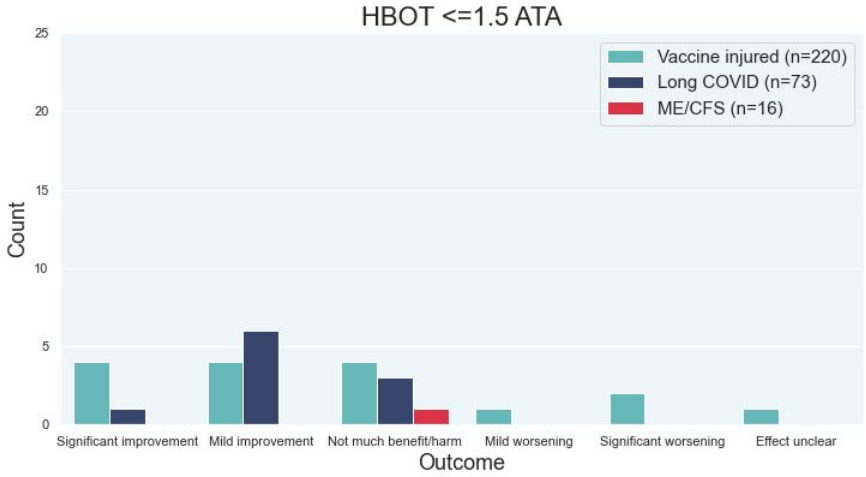
Chronic Lyme treatments such as HBOT, methylene blue, IV ozone, and monolaurin are included. Amphotericin, Canesten, Econazole, etc. are anti-fungals.

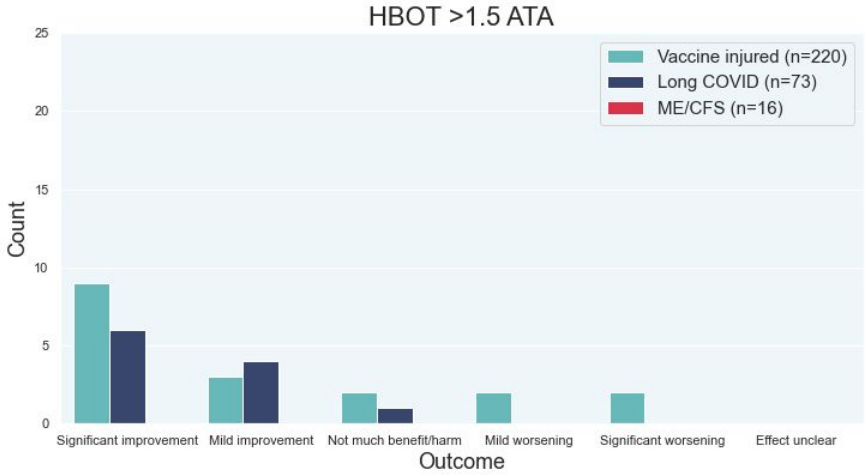
| | Treatments with more than 0 data points | Score | Risk score | # of data points (out of 309 surveyees) |
|---|---|---|---|---|
| 1 | [HBOT >1.5 ATA] | 1.52 | -0.28 | 29 |
| 2 | [Methylene blue] | 1.25 | 0.00 | 4 |
| 3 | [Monoclonals] | 1.08 | -0.15 | 13 |
| 4 | [Paxlovid] | 0.90 | -0.30 | 10 |
| 5 | [Amphotericin, Canesten, Econazole, Fluconazol... | 0.88 | 0.00 | 17 |
| 6 | [Plaquenil] | 0.82 | -0.32 | 22 |
| 7 | [Ivermectin] | 0.73 | -0.11 | 79 |
| 8 | [HBOT <=1.5 ATA] | 0.67 | -0.26 | 27 |
| 9 | [Nigella sativa capsules] | 0.55 | -0.05 | 40 |
| 10 | [Alinia] | 0.50 | 0.00 | 2 |
| 11 | [Molnupiravir] | 0.50 | 0.00 | 2 |
| 12 | [Nigella sativa oil] | 0.48 | -0.14 | 56 |
| 13 | [IV ozone] | 0.48 | -0.13 | 23 |
| 14 | [Nigella sativa seed] | 0.40 | 0.00 | 10 |
| 15 | [Monolaurin] | 0.27 | 0.00 | 15 |
| 16 | [Aciclovir, Famciclovir, Valtrex, Valcyte] | 0.27 | -0.12 | 33 |
| 17 | [Tetracyclines, Flox antibiotics, Penicillins,... | -0.12 | -0.44 | 95 |

# HBOT safety

There are anecdotal reports of permanent/long-lasting worsening following HBOT.

A small portion of surveyees reported significant overall worsening regardless of air pressure / ATA.  Oxygen toxicity is unlikely at lower ATAs.  It is not clear why worsening is occurring.



# Anti-microbial treatments

**HBOT** (>1.5 ATA), **Plaquenil/hydroxychloroquine** and **ivermectin** are among the top treatments. Ivermectin is one of the safer treatments. Black seed oil from **Nigella sativa** (available as **oil** or **capsules**) is also among the lower/medium-risk treatments, though its average reported benefits are mediocre.

One possibility is that the anti-bacterial effects of **antibiotics**, **Nigella sativa**, **Plaquenil**, and **HBOT** are responsible for their reported negative outcomes. Nigella sativa is normally very safe as it is an ethnic food.

**Papers on antibacterial effects of the treatments mentioned**
Carvacrol, found in Nigella Sativa:
https://doi.org/10.3390/antibiotics7040089
Hydroxychloroquine:
https://jscholarship.library.jhu.edu/handle/1774.2/39473
HBOT on Lyme: http://www.oceanhbo.com/PDF/HBO_lyme_vasculitis(1).pdf

## Anti-microbials

Chronic Lyme treatments such as HBOT, methylene blue, IV ozone, and monolaurin are included. Amphotericin, Canesten, Econazole, etc. are anti-fungals.

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| 8 | [HBOT <=1.5 ATA] | 0.67 | -0.26 | 27 |
| 9 | [Nigella sativa capsules] | 0.55 | -0.05 | 40 |
| 10 | [Alinia] | 0.50 | 0.00 | 2 |
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| 12 | [Nigella sativa oil] | 0.48 | -0.14 | 56 |
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| 14 | [Nigella sativa seed] | 0.40 | 0.00 | 10 |
| 15 | [Monolaurin] | 0.27 | 0.00 | 15 |
| 16 | [Aciclovir, Famciclovir, Valtrex, Valcyte] | 0.27 | -0.12 | 33 |
| 17 | [Tetracyclines, Flox antibiotics, Penicillins,... | -0.12 | -0.44 | 95 |

# For patients with and without severe food intolerances

In those with severe food intolerances, 3 treatments had a greater effect:

- Diet. The two most popular diets were gluten-free and low histamine. Surveyees likely have different ideas about what an “anti-inflammatory” diet is, so it’s not clear what that diet is.
- LDN (low-dose naltrexone).
- Antihistamines.

Food intolerances did not have a large effect on reported outcomes from **DAO enzymes**.

| | Treatments with more than 33 data points | Score | Risk score | # of data points (out of 304 surveyees) |
|---|---|---|---|---|
| 1 | ['Pacing strategies'] | 1.52 | -0.02 | 119 |
| 2 | ['Heparin', 'Eliquis', 'Clopidogrel', 'Xarelto... | 1.39 | -0.02 | 44 |
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| 10 | ['HBOT <=1.5 ATA', 'HBOT >1.5 ATA'] | 1.07 | -0.27 | 55 |
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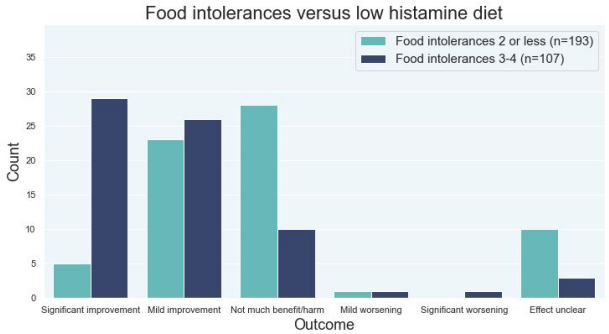
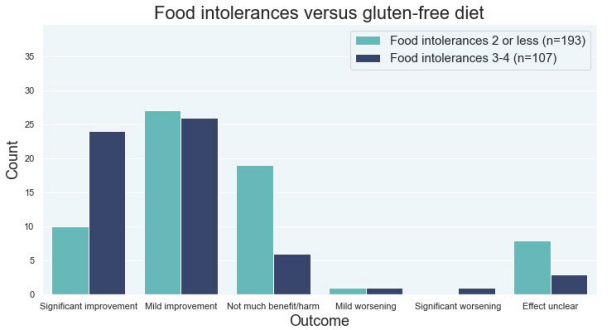
| 15 | ['OMAD'] | 0.88 | -0.10 | 51 |
| 16 | ['Magnesium'] | 0.75 | -0.03 | 215 |
| 17 | ['Statins', 'Red yeast rice'] | 0.74 | -0.28 | 53 |
| 18 | ['DAO'] | 0.74 | -0.03 | 39 |
| 19 | ['Ivermectin'] | 0.73 | -0.11 | 79 |
| 20 | ['Claritin'] | 0.73 | -0.08 | 96 |

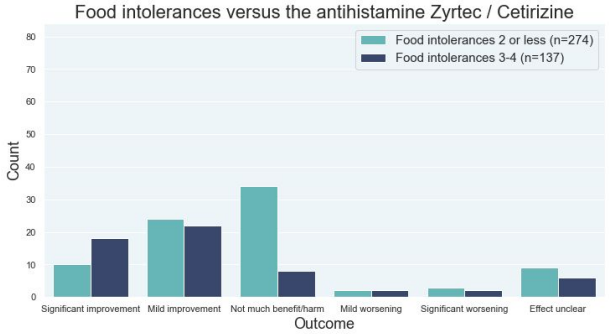
# Severity of food intolerances versus outcomes

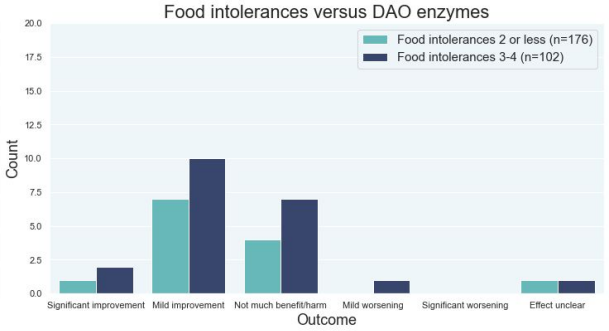
The survey asked surveyees to rate their suffering from food intolerances on a scale from 0-4 (4 = greatest suffering imaginable). The charts in this slide show the 2 groups split based on the reported severity of food intolerances.

Some of those without severe food intolerances still reported benefit from the treatments.



# Antihistamines: consider trying another H1 blocker if the 1st does not work

They who said that they didn't respond to a H1 blocker sometimes reported success from a different H1 (or H2) blocker.

## Do some people fail on one H1 blocker and succeed with another?

Loratadine (Claritin), fexofenadine (Allegra), cetirizine (Zyrtec, Benadryl Allergy One a Day Relief GB), levocetirizine (Xyzal) and acrivastine (Benadryl Allergy Relief GB) are H1 blockers that are sold over-the-counter in many countries.

Responders are defined as surveyees who answered either significant or mild improvement. The chart below compares pairings of some popular anti-histamines. Each row represents a group of people who failed a particular treatment/intervention (or reported that the effect was unclear). Each column represents the chances of responding to that particular intervention.

The bracketed numbers (1234) indicate the total number of people who did not respond to the treatment/intervention ('failed').

| | Zyrtec | Claritin | Allegra | Acrivastine | Pepcid (H2 blocker) |
|---|---|---|---|---|---|
| **Zyrtec failed** | | 14.3% (35) | 20.0% (15) | 15.4% (13) | 29.6% (27) |
| **Claritin failed** | 25.0% (40) | | 9.5% (21) | 18.8% (16) | 24.2% (33) |
| **Allegra failed** | 33.3% (18) | 13.6% (22) | | 14.3% (7) | 15.8% (19) |
| **Acrivastine failed** | 26.7% (15) | 7.1% (14) | 14.3% (7) | | 16.7% (12) |
| **Pepcid (H2 blocker) failed** | 26.9% (26) | 7.4% (27) | 11.1% (18) | 33.3% (15) | |

# Blood thinning drugs

Aspirin and Advil had only mild reported benefits, perhaps because they usually aren't used for long periods of time.

3 out of 4 prescription drugs (plus HELP apheresis) had excellent reported benefits. However, sample sizes were quite small for each individual treatment.

The small cohort may be over-represented by patients who go to great lengths to find experimental treatments. They could be reporting outcomes more optimistically for unconventional treatments. **More data is needed** to draw more reliable conclusions.

## Blood thinning drugs + HELP apheresis

Please note that the sample sizes for certain treatments are very small. As well, the data may be highly biased and not representative of how other people might respond to blood thinning drugs.

Tylenol (acetaminophen) is not considered to be a blood-thinning drug. It is included because it is a common alternative for other drugs on this list (Advil, Aspirin, etc.).

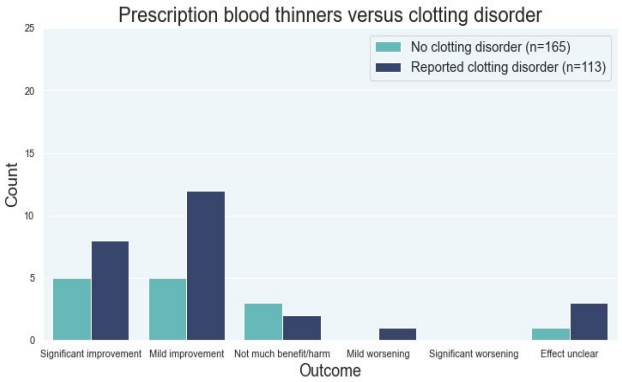
| | Treatments with more than 0 data points | Score | Risk score | # of data points (out of 309 surveyees) |
|---|---|---|---|---|
| 1 | [HELP apheresis] | 1.80 | -0.10 | 10 |
| 2 | [Eliquis] | 1.73 | 0.00 | 11 |
| 3 | [Clopidogrel] | 1.63 | -0.05 | 19 |
| 4 | [Heparin] | 1.00 | 0.00 | 11 |
| 5 | [Aspirin] | 0.59 | -0.09 | 138 |
| 6 | [Advil] | 0.37 | -0.12 | 138 |
| 7 | [Other NSAID] | 0.32 | -0.20 | 75 |
| 8 | [Tylenol] | 0.26 | -0.12 | 117 |
| 9 | [Xarelto] | 0.00 | 0.00 | 3 |

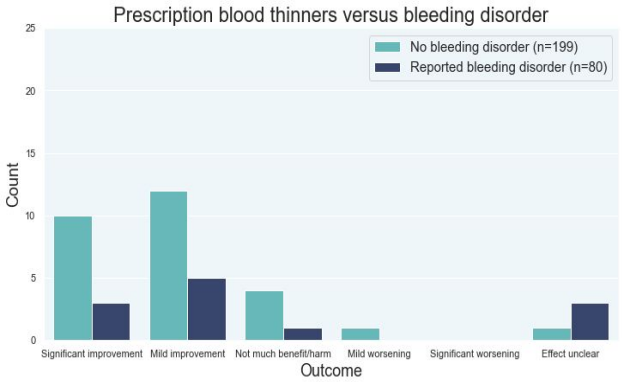
# Blood thinning drugs versus bleeding and clotting disorders

The survey asked participants to report any bleeding and clotting disorders (clotting as in too much clotting).

Reported outcomes did not seem to correlate strongly with reported bleeding or clotting disorders.

Average (mean) scores are shown below the charts on the right.




No clotting: score=1.43
Clotting disorder: score=1.35

No bleeding: score=1.46
Bleeding disorder: score=1.17

# Mental and alternative treatments

Reported outcomes varied widely in terms of Score and Risk Score. It is not clear why so many people reported negative experiences with acupuncture.

Those who reported positive outcomes from **prayer** had roughly the same improvement in severity as the average surveyee (see bottom right). Their walking ability, working ability, and self-reported suffering were about the same.

Mental treatments likely have unique reporting biases that do not apply to other interventions (e.g. not a single person reported worsening from prayer). The reported outcomes likely should not be compared to other treatments.

## Mental and alternative treatments only

| | Treatments with more than 0 data points | Score | Risk score | # of data points (out of 309 surveyees) |
|---|---|---|---|---|
| 1 | [Prayer] | 1.22 | 0.00 | 90 |
| 2 | [Brain retraining] | 1.15 | -0.10 | 40 |
| 3 | [EMDR] | 1.00 | 0.00 | 14 |
| 4 | [Traditional sauna] | 1.00 | -0.12 | 16 |
| 5 | [Meditation] | 0.97 | -0.04 | 139 |
| 6 | [Infrared sauna] | 0.57 | -0.14 | 37 |
| 7 | [Red light therapy] | 0.52 | -0.13 | 46 |
| 8 | [Acupuncture] | 0.51 | -0.27 | 90 |
| 9 | [CBT] | 0.50 | -0.09 | 64 |

```
--  Change in severity score              --
--  (-2 to +10, higher is more recovery)  --
Significant improvement from prayer          2.0
Mild improvement from prayer                 1.65
Not much improvement or worsening            2.08
All participants including those who prayed  1.96
```

# Fasting

Fasting for more than 24 hours was not tolerated well by all surveyees.

One-meal-a-day (OMAD) seems like the leading fasting option at the moment, though there is insufficient data on fasting for longer than 48 hours (multiday fasting).

Juices and cleanses during fasting may hurt outcomes, though there is very little data at the moment.

## Fasting only

| | Treatments with more than 0 data points | Score | Risk score | # of data points (out of 287 surveyees) |
|---|---|---|---|---|
| 1 | [Multiday fasting] | 1.23 | -0.23 | 13 |
| 2 | [OMAD] | 0.93 | -0.09 | 45 |
| 3 | [24-48 hour fasting] | 0.89 | -0.41 | 27 |
| 4 | [Intermittent fasting] | 0.67 | -0.11 | 90 |
| 5 | [Multiday juice fasting] | 0.33 | -0.67 | 6 |

# Over-the-counter supplements

Magnesium was the top-rated supplement and was tried by more than 2/3rds of the surveyees.  It seems to be one of the lowest-risk interventions.

## Over-the-counter supplements only

| | Treatments with more than 0 data points | Score | Risk score | # of data points (out of 287 surveyees) |
|---|---|---|---|---|
| 1 | [Magnesium] | 0.73 | -0.03 | 203 |
| 2 | [Probiotics prebiotics] | 0.73 | -0.06 | 149 |
| 3 | [B vitamins] | 0.61 | -0.11 | 199 |
| 4 | [Melatonin] | 0.58 | -0.13 | 125 |
| 5 | [Nigella sativa capsules] | 0.57 | -0.05 | 37 |
| 6 | [NAC] | 0.56 | -0.06 | 118 |
| 7 | [Vitamin C] | 0.53 | -0.01 | 205 |
| 8 | [Vitamin D] | 0.50 | -0.04 | 229 |
| 9 | [Quercetin] | 0.49 | -0.12 | 164 |
| 10 | [Nigella sativa oil] | 0.48 | -0.15 | 54 |
| 11 | [Fish oil etc.] | 0.46 | -0.03 | 143 |
| 12 | [CBD THC] | 0.45 | -0.18 | 92 |
| 13 | [Nigella sativa seed] | 0.44 | 0.00 | 9 |
| 14 | [ALA] | 0.41 | -0.12 | 59 |
| 15 | [Zinc] | 0.39 | -0.04 | 178 |
| 16 | [K vitamins] | 0.36 | -0.05 | 77 |
| 17 | [Luteolin] | 0.33 | 0.00 | 15 |
| 18 | [Monolaurin] | 0.31 | 0.00 | 13 |
| 19 | [Multivitamin] | 0.21 | -0.10 | 116 |
| 20 | [Pine needle tea] | 0.19 | -0.15 | 48 |

# Statins

Statins were popularized by the Bruce Patterson group (CovidLongHaulers.com) and early versions of the FLCCC protocol.

The (limited amount of) evidence currently available suggests that lower-risk interventions could be tried first before moving onto statins as a second-line treatment.

## Certain prescription drugs, statins, maraviroc

Excludes anti-depressants, anti-microbials, etc.

| | Treatments with more than 0 data points | Score | Risk score | # of data points (out of 309 surveyees) |
|---|---|---|---|---|
| 1 | [Maraviroc] | 1.12 | -0.75 | 8 |
| 2 | [Opiates] | 1.04 | -0.12 | 26 |
| 3 | [Statins, Red yeast rice] | 0.72 | -0.28 | 54 |
| 4 | [Beta blockers] | 0.65 | -0.46 | 83 |
| 5 | [Colchicine] | 0.60 | -0.46 | 35 |
| 6 | [Other pain relievers] | 0.17 | -0.38 | 60 |
| 7 | [Antiseizure] | 0.13 | -0.80 | 15 |

# What’s on the horizon

# Good but not good enough

The data suggests that multiple effective treatments will be proven.

However, it does not look like any single treatment will be ***the*** treatment for all long haulers.  Single treatments rarely cure the patient and many do not respond to particular treatments.

With over 100 treatments surveyed, it seems unlike that any single treatment will cure patients.

# Close but not quite there

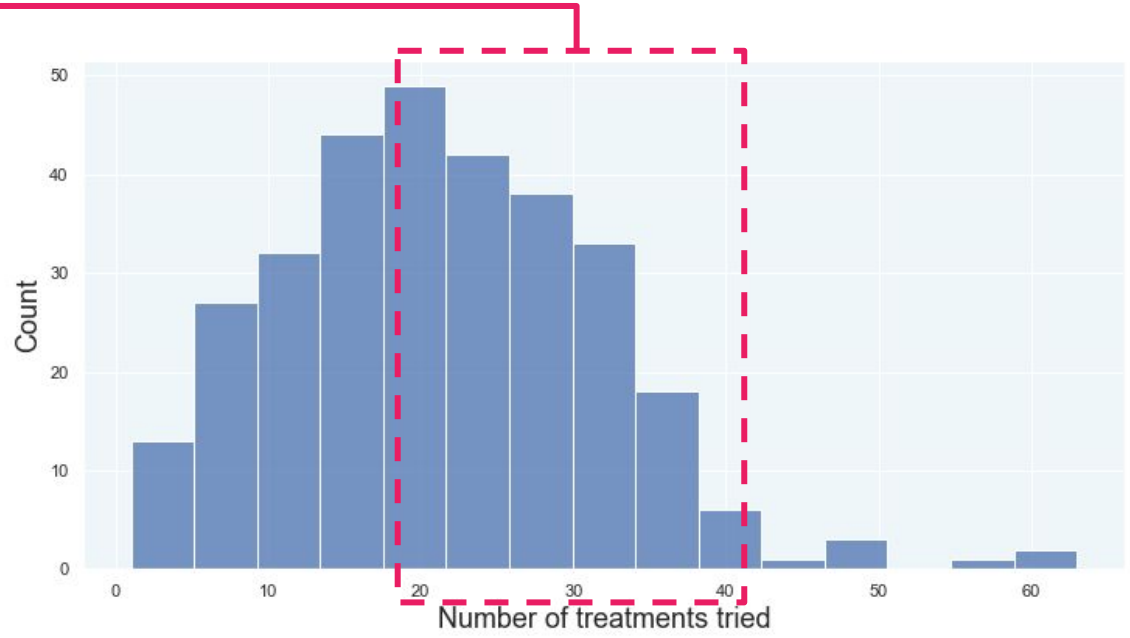
So far, we know that at least one treatment (HBOT) will push patients in the right direction.

In the future, we may discover why treatments work *and why they don't work*.  One day, we may be able to predict which treatments will heal patients.

# What about treatment combinations?

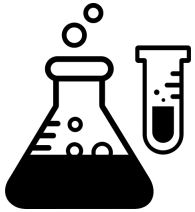
Many long haulers have tried 20-40+ treatments. The problem is that we don't know if any combinations are helpful.

We do not have **tests** or **medical knowledge** to help predict if certain combinations will work for a specific patient. **Innovation is needed.**



# Closing thoughts

While there is no known cure, we will keep pushing forward. We will continue the search for answers and better treatments.



Please contribute your data to the ongoing survey if you haven't already:
https://forms.gle/ryc6gcJLpUmbjNZ77
It takes just 3-9 minutes. Thank you!