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Self Education

Self Education

Reflux / GERD

Summary

What is reflux / gerd?
Most people think it's too much acid coming up from the stomach but it's actually too little acid or the pH isn't acidic enough. The lower esophageal sphincter only closes when you have enough acid and the pH is acidic enough.

Causes of reflux
h.pylori which causes your stomach to become more alkaline, bad diet causes low stomach acid

Remedies

- Betain Hydrochloride (Betain HCL) to reacidify the stomach during meals, start with 1 and increase by 1 with each meal until a max of 8 capsules of 5200mg.
- Apple cider vinegar 15-30 mins before meals to stimulate the stomach acids

Dr Berg - Remedies for acid reflux without medication

Video summary

- Reflux is due to too little acid in your stomach or a pH that is too alkaline
- Stomach acid should be between 1-3 pH
- Main symptoms are GERD, acid reflix, heart burn & bloating
- SIBO (Small intestinal bacterial overgrowth) and h.pylori can occur when the somach acid is not strong enough

- Remedies include: Betain Hydrochloride (take 1 with food and increase by 1 each day until you feel warmth in your stomach and go down by 1, max of 5200mg), intermitent fasting
- Casues of low stomach acid / pH: Hypothyroidism, bad diet (causes h.pylori), ant acids / acid lowering drugs, salt, potassium, zinc or iodine deficienty

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Dr Berg - Bloating, indigestion, constipation & acid reflux

Video summary:

- Stomach pH needs to be between 1-3 to: kill pathogens and break down food
- If stomach acid pH is not acid enough, the gall bladder wont release bile and pancreas wont release enzymes and LPR wont close
- Bloating is caused by lack of bile
- Solutions include: Apple cider vinegar, Betain HCL before a meal & bile salts

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Dr Berg - Silent acid reflux

Video summary

- Acid comes through the valve at the top of the stomach leading to throat clearing, coughing, sore vocal chords, pain in the sternum
- Lower esopogeal sphincter is controlled by: pH of the stomach, autonomic nervous system, gastic acid issues
- Remedies: Betain HCL, apple cider vinegar, salt, potassium, vitamin D

Dr Berg - Interview with reflux sufferer

Video summary:

- Took some chlorophyll and felt a bit better
- When you don't have enough stomach acid
  the valve doesn't close
- Things you **shouldn't** use: PPI's, calcium, ant
  acids
- As you get older, your stomach naturally produces less acid
- Hearburn is caused by low stomach acid, acid reflux is a deficieny of acid
- remedies include Betain HCL (fix stomach ulcers first)

Dr Berg - Gastoesophogeal Reflux disease (GERD)

Video summary

- Caused when you don't have enough acid or is not acidic enough
- Remidies include betain hcl and apple cider vinegar
- h.pylori becomes more active when your stomach is not acidic enough

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Dr Berg - How to stop acid reflux

VIdeo summary

- Acid reflux is caused when the lower esopogeal sphincter (LES) does not close
- The LES only closes when you have enough stomach acid or not pH enough
- 30% of the population has a deficincy of stomach acid
- Causes of low stomach acid: stress, h.pylori over growth, low zinc, low salt, low potassium, too much calcium
- Remedies: Betain HCL just before a meal and increase by 1 each meal until you feel warmth, chewing more

Self Education

Castor Oil

Summary

What is castor oil?
Oil that comes from the seed of the castor plant, it has been used by the egyptians, romans, chinese over thousands of years

What is is used for
Anti-inflammitory to run on joints if sore, used in hair or eyelashes to help it become thicker and longer. Also to help heal scars, stretch marks and other general skin issues.

Dr Berg - Interesting benefits of castor oil

Summary:

- Comes from the seeds of the castor-oil plant
- It's an unsaturated fatty acid
- Anti-inflammitory and anti-fungal to rub on joints
- Used to rub into eye lashes and hair to make it soft and thick

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Dematologist on the top benefits of castor oil

Summary

- Taken internally is safe but is a natural laxative
- Keep the skin hydrated when used on the face, skin or lips
- Help eyelashes, head hair by reducing the breakage
- Keep in a cool dry place

Dr Berg - Theraputic benefits of castor oil

Summary

- Been used by the egyptians, romans, chinese over thousands of years
- Good moisteriser on cracked foot, strech marks, dry scalps
- When used on the skin it increases the blood circulation in the local area
- Can also be used for joint pain
- Oil is Anti bacterial and and antifungal

The miracles of castor oil

Summary

- Has been found in ancient egyptian tombs dating back to 4000 BC
- Can help with pain and a lot of skin conditions by rubbing the oil onto the skin
- Great for hair, eyelashes and eyes (when put on eyelids)

Dr Berg - Castor oil for your face

Summary

- Many civilizations used it
- Can give your skin a soft, smooth tone and good for scars
- The oil penetrates deep into the skin
- Castor oil is high in vatmin E which protects the skin
- The oil is anti bacterial and and antifungal
- Ricin is removed in production

Self Education

Fasting

Summary

- 24 hour fast will reduce blood sugar, start to go into ketosis, cravings go down, energy goes up, better mental focus
- 2 day fast leats to more autopagy, cleaning up of old and damaged cells
- 3 day fast leads to a near full regeneration of the immune system
- Stick to water, salt water and electolytes

Dr Berg - 6 stages of fasting

Summary

- 8-14 hours - blood sugar start to stablise, use sugar in blood
- 14-24 hours - start to get into ketosis, cravings go down, energy goes up, better mental function
- 24-36 hours (1-1.5 days) - Full ketosis + fat burning, apetite is down
- 36-48 hours (1.5-2 days) - Lots of autophagy (cleaning up old cells, destroying cancer cells)
- 48-60 hours (2-2.5 days) - More autophagy, less inflammation
- 60-72 hours (2.5-3 days) - More stem cells, near complete regeneration of immune system

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Dr Berg - 6 stages of fasting

Summary

- Boost white blood cell count
- Enhancement of T cell - supresses inflammation
- Decreases PKA - Slow stem cell generation
- Increases autophagy - Destroys old white blood cells

Liquids to drink an avoid while fasting

Summary

- Liquids to avoid: bone broth (high in peotein, collagen powder, coconut water (high in sugar), sodas, energy drinks, alcohol, soy milk, almond milk and dairy
- Liquid to drink: Water, electrolytes, apple cider vinegar, lemon water, green tea, celtic salt water

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Benefits of prolonged fasting

Summary

- Regenerates certain brain cells
- Increase in mitochondria from energy from fat
- Enhanced stem cell production
- Decreased tumor growth (cancer can't survive on ketones)
- Increase in antioxidants

Self Education

Oil Pulling

Summary

To start: put a teaspoon of coconut oil in the mouth to swish around your mouth for 15-20 mins each day

Benefits include: whiten teeth, kill bad bacteria, reduce plaque formation

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Coconut oil pulling experience

- Swish around coconut oil in your mouth for 15-20 mins then spit into bin
- Benefits include: healthier gums, reduced inflammation, whiter teeth, less plaque & bacteria and fresher breath

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Coconut oil pulling - everything you need to know

- Main reasons why oil pulling can work: Swishing of the oil makes a soap like process which cleans your mouth, the viscousoty of the oil sticks to things and pulls them out and coconut oil has antibacterial properties
- Should be done on a daily basis, best time is first thing in the morning
- Can help reduce plaque formation

Barbara O'Neill - coconut oil

- Swish coconut oil around your mouth
- pulls waste out of your tongue, gums
- Eating sugar feeds the bad bacteria stuck between your teeth and increases plaque

Self Education

Nasal breathing

Summary

Mouth breathing: Dries out upper airways, leating to infammation, narrowing of airways

Nasal breathing: Slows down your breath, activates diaphramatic breathing, lowers heart rate, 10-20% better update of oxygen

Nitric oxide: Only produced in the nasal passages anti-bacterial, anti-fungal, increases oxygen uptake in the blood.

Nose breathing benefits

- Nose slows down your breathing and helps pick up more nitric oxide
- **Nose breathing**: activated diaphram breathing, slows down breathing, lowereing stress, 10-20% better uptake of oxygen, filters the air, reduces heart rate
- **Mouth breathing:** activates the chest, more speech problems, bad breath
- **Nitric Oxide**: Sterolizes the air as it comes in

The Benefits of Nasal Breathing

- The nose is the only organ that conditions, moistens and regulates breathing volume, which protects the upper exercise
- Still better to breath with your nose during rest, exercise and sleep
- **Mouth breathing**: dries out upper airways leading to inflammation, norrowing of airways, contributes to bad breath and poor dental health
- **Nitric oxide:** Antiviral, antibacterial and helps redistribute the blood throughout the lungs, increasing oxygen updake in the blood
- **Nasal breathing:** Recovery post exercise is better, less expired oxygen, meaning your body utilizes oxygen more efficiently

Self Education

Nicotine

Summary

asdf

Dr Brian Ardis interview

Summary

- 10 mins into the video - all "long covid" symptoms improve within minutes to days by using a 7mg nicotine patch for 1 week, after a 6 month follow up, there was a 100% fix of their symptoms
- 21 minutes into the vieo - every cell of the human body has nicotine receptors, when you use a nicotine patch, it stops other certain proteins from binding to it (alpha 7 nicotine receptors)
- Cure for alshiermiers, myocarditis

Protective role of nutraceuticals against myocarditis (study)

Study Source

Treatments

Treatments

Methelyne Blue

MB Intro

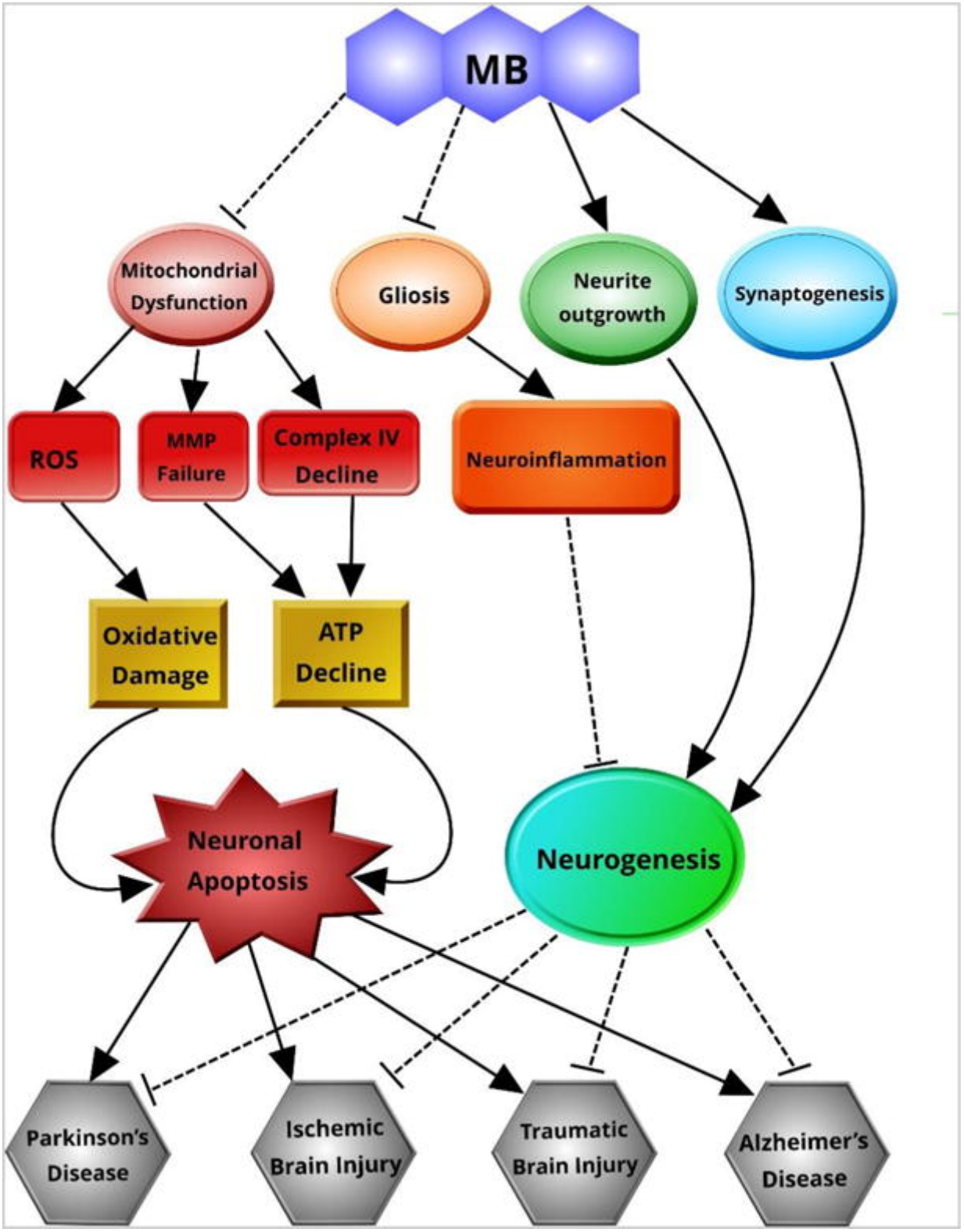
Originally created as a textile dye in 1876, it's now recognised for its role as an alternative electron carrier in mitochondria.

Methylene blue acts as an electron shuttle in the mitochondria, bypassing blocks in the electron transport chain. This helps maintain energy (ATP) production when the normal pathway is impaired.

MB Benifits

Brain Mitochondrial Enhancer

Our brain relies on oxidative metabolism for energy, making proper mitochondrial function crucial for brain health. MB prevents premature brain cell death while supporting energy production and the growth of new neural connections



2 - Cognitive Enhancer

MB is known as a nootropic. It increases ATP production in the brain, providing the energy needed for enhanced brain performance. It's one of the best options for improving attention span, memory, and overall cognition.

The concept of cognitive enhancement via mitochondrial modulation has been investigated increasingly in recent years. The general concept is that by improving mitochondrial function and oxidative defenses, neurons can function with improved efficiency and maintain proper health, improving basal function and stymieing cognitive decline associated with age and neurodegeneration [154]. Early work by Gonzalez-Lima has shown that MB improved spatial memory retention alongside long-lasting mitochondrial respiratory function, mediated through complex IV [26]. The long-term upregulation of CCO may be related to increased H_2O_2 production without superoxide formation, via MB in physiological conditions, leading to upregulation of Nrf2/ARE [135]. In a human study, MB administration increased cerebrovascular reactivity in psychomotor vigilance task and a short-term memory test. This was accompanied with modest improvements in performance on the short-term memory test [155]. These benefits correlated with mitochondrial function are corroborated by experiments showing similarly improved cognition with photobiomodulation, the stimulation of complex IV with transcranial near-infrared laser irradiation [156].

3 - MB Against Infectious Diseases

MB has antimicrobial properties, making it effective against various pathogens (bacterial, viral, and fungal). It also aids in C19 treatment by inhibiting SARS-CoV2 replication.

Table 1

Mechanisms of action of methylene blue (MB) in COVID-19 disease. Abbreviations: ACE2: Angiotensin-converting enzyme 2.

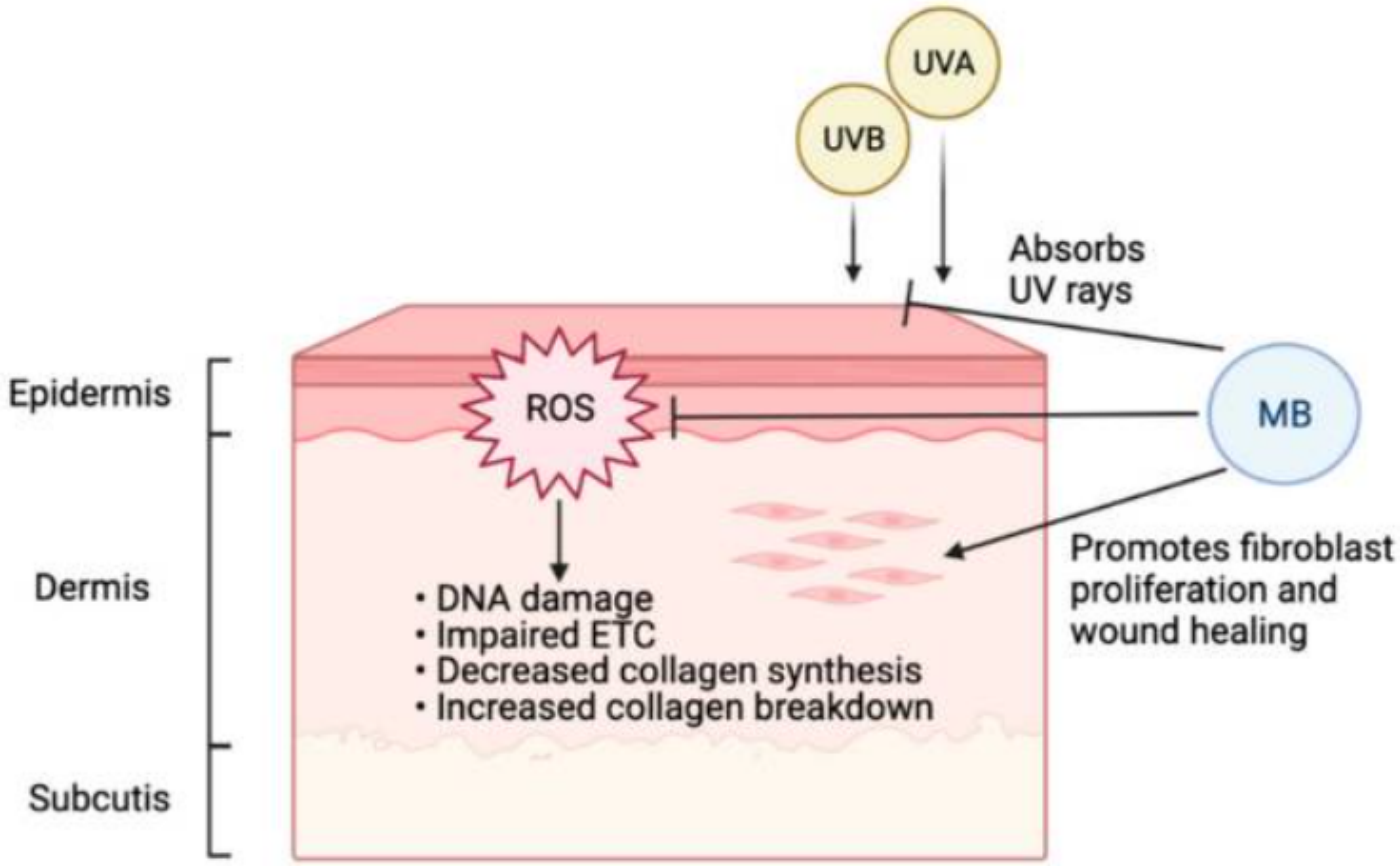
Actions against SARS-CoV-2 Virus	
Reduced Viral Entry	1. Inhibits binding of spike protein to ACE2 receptor 2. Impairs membrane fusion/endocytosis
Reduced Viral Replication	1. Reduces viral uncoating (increases lysosomal pH) 2. Reduces protein translation (increases lysosomal pH) 3. Inhibits RNA dependent RNA polymerase (zinc ionophore)
Photo-Oxidative Viral Inactivation [activation by 660 nm light]	1. Targets viraemia 2. Augments the effects of topical oral/nasal PDI
Reduced Organ Damage	
Reduced Cytopathic Effects	1. Reduced viral replication/protein translation 2. Reduced oxidative stress 3. Reduced cytokine damage
Reduced Hypoxia	1. Improves mitochondrial respiration 2. Rapidly reduces methemoglobinemia 3. Reduces micro-thrombi (reduces platelet aggregation)
Reduced Hyper-Inflammation	1. Inhibits NLRP3 2. Reduces excess nitric oxide/bradykinin activity 3. Scavenger of reactive oxygen/nitrogen species
Broad Spectrum Antimicrobial (Bacterial/Fungal/Other Viruses)	
Reduced Secondary Infections	1. Intrinsic anti-microbial actions 2. Intravascular photo-oxidative anti-microbial actions

4 - MB Delays Skin-Aging

MB has the ability to delay skin aging as well

- Increases cell longevity
- Protects skin from UV exposure
- Accelerates the wound healing process

Additionally, MB's antimicrobial properties are beneficial for skin, too.



5 - MB as Anti-Depressant

MB works as a monoamine oxidase inhibitor (MAOI), increasing serotonin, norepinephrine, and dopamine levels.

Plus, it reduces brain inflammation.

Clinical research shows 15mg/day significantly improved depression symptoms compared to placebo in a controlled trial

> Methylene blue, 15 mg/day, was compared with placebo in treatment of severe depressive illness. The 3-week trial was designed to avoid bias by placebo response and also to avoid observer bias. Improvement in patients receiving methylene blue was significantly greater than in those receiving placebo. Methylene blue at a dose of 15 mg/day appears to be a potent antidepressant, and further clinical evaluation is essential.

Dosage

- Start with 5 drops (2.5 mg) daily, steadily increase to 12 (6 mg) if you respond well
- Up to 15 drops (7.5 mg) if I have a key outcome that I'm taking it for (anti-infection, cognitive enhancement, etc.)
- I have experimented with 15 drops twice per day and seen diminishing returns. (No additional benefits seen)

Consumption

Add MB to fresh orange juice to avoid blue tongue/mouth staining. Other liquids that also work well: Kombucha, raw milk. Be cautious not to spill—it stains. Note: If it does get on your skin, it's always worn off within a day for me

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MB Side effects

Scientific studies have proven MB's cognitive effects and it's antimicrobial powers (it was one of the earliest antimalarial drugs). But here are the risk-factors you should be aware of

1 - The Herxheimer reaction

When MB rapidly kills bacteria, they release endotoxins faster than your body can clear them. This causes temporary inflammatory responses that manifest as "die-off" symptoms.

Understanding the Herxheimer Reaction:

The Herxheimer reaction, also known as Jarisch-Herxheimer reaction, is essentially an acute exacerbation of symptoms that occurs when microorganisms release toxins into the body during the process of being killed off by antibiotics or other antimicrobial agents. It typically manifests as an initial worsening of symptoms, followed by improvement as the body clears the toxins.

The mechanism behind the Herxheimer reaction lies in the rapid destruction of pathogens, which leads to the release of endotoxins or other harmful substances. These toxins can overwhelm the body's detoxification systems, triggering an inflammatory response that exacerbates existing symptoms or causes new ones. Common symptoms of the Herxheimer reaction include fever, chills, headache, muscle aches, and fatigue.

The phenomenon is commonly observed in the treatment of various infections, including Lyme disease, syphilis, and certain bacterial, fungal, and parasitic infections. It is particularly prevalent in conditions where the pathogen burden is high or when aggressive antimicrobial therapy is initiated.

Herxheimer reactions from MB can include:

- Headaches
- Debilitating fatigue
- Nausea
- Brain fog
- Flu-like symptoms
- Muscle aches
- Fever or chills

These symptoms are documented in Lyme disease treatment literature.

2- MB's role as a Monoamine Oxidase Inhibitor (MAOI).

Studies confirm MB is a potent reversible inhibitor of MAO-A, which normally breaks down serotonin and other neurotransmitters. By blocking this enzyme, MB increases serotonin levels.

Methylene blue and serotonin toxicity: inhibition of monoamine oxidase A (MAO A) confirms a theoretical prediction

R R Ramsay [1], C Dunford, P K Gillman

Affiliations + expand

PMID: 17721552 PMCID: PMC2078225 DOI: 10.1038/sj.bjp.0707430

Abstract

Background and purpose: Monoamine oxidase inhibitors (MAOI) are known to cause serotonin toxicity (ST) when administered with selective serotonin reuptake inhibitors (SSRI). Methylene blue (methylthionium chloride, MB), a redox dye in clinical use, has been reported to precipitate ST in patients using SSRI. MB was assessed for MAO inhibition and so for its potential to precipitate ST.

Experimental approach: Inhibition of purified human MAO was quantified using kinetic assays and visible spectral changes to study the interactions of MB with MAO A.

Key results: MB was a potent (tight binding) inhibitor for MAO A. It also inhibited MAO B but at much higher concentration. Interactions of MB with the active site of MAO A were confirmed by its action both as an oxidising substrate and as a one-electron reductant.

Conclusions and implications: MB is a potent reversible inhibitor of MAO A with implications for gut uptake of amines when administered orally. At concentrations reported in the literature after intravenous administration, MAO B would be partially inhibited but MAO A would be completely inhibited. This inhibition of MAO A would be expected to lead to perturbations of 5-hydroxytryptamine metabolism and hence account for ST occurring when administered to patients on SSRI treatment.

This MAOI activity creates a serious danger: combining MB with serotonergic drugs can trigger serotonin syndrome. The FDA has issued explicit warnings about this interaction, citing severe CNS reactions when MB is given to patients on psychiatric medications

FDA Drug Safety Communication: Serious CNS reactions possible when methylene blue is given to patients taking certain psychiatric medications

The FDA has issued new information about this safety issue, see the FDA Drug Safety Communication issued 10-20-2011.

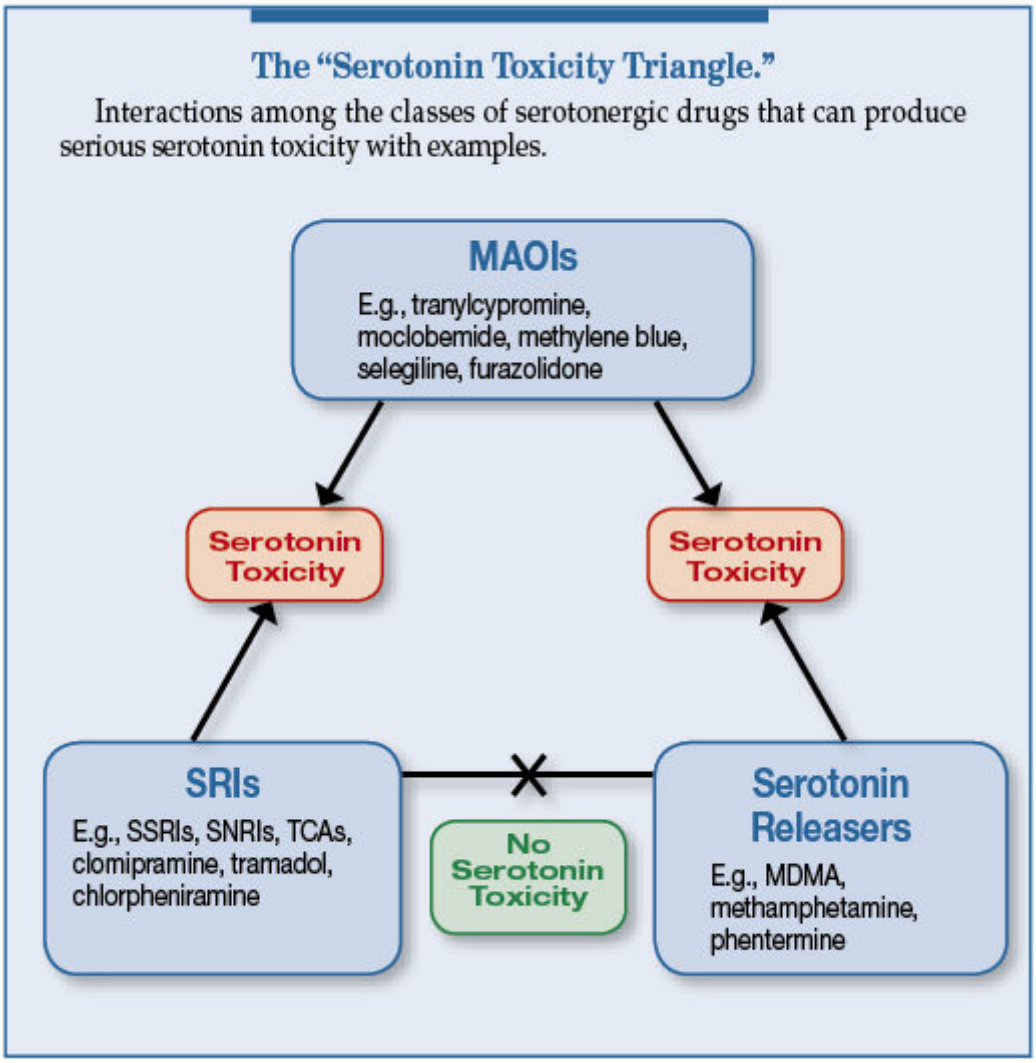
Safety Announcement
Additional Information for Patients
Additional Information for Healthcare Professionals
Data Summary
References

Safety Announcement

[07-26-2011] The U.S. Food and Drug Administration (FDA) has received reports of serious central nervous system (CNS) reactions when the drug methylene blue is given to patients taking psychiatric medications that work through the serotonin system of the brain (serotonergic psychiatric medications). Methylene blue is commonly used in diagnostic procedures and is also used to treat a number of medical conditions (see Facts about methylene blue box). A list of the serotonergic psychiatric medications that can interact with methylene blue can be found here.

Facts about Methylene Blue

- Used to treat methemoglobinemia, vasoplegic syndrome, ifosfamide-induced encephalopathy, cyanide poisoning
- Used as a dye in therapeutic and diagnostic applications
- Is a potent, reversible monoamine oxidase inhibitor (MAOI).



Symptoms of serotonin syndrome include:

- Mental status changes (confusion, agitation)
- Neuromuscular abnormalities (tremor, muscle rigidity)
- Autonomic instability (sweating, fever)
- High blood pressure
- Seizures

Medical literature includes fatal cases.

> Although the exact mechanism of this drug interaction is unknown, methylene blue inhibits the action of monoamine oxidase A—an enzyme responsible for breaking down serotonin in the brain. It is believed that when methylene blue is given to patients taking serotonergic psychiatric medications, high levels of serotonin can build up in the brain, causing toxicity. This is referred to as Serotonin Syndrome. Signs and symptoms of Serotonin Syndrome include mental changes (confusion, hyperactivity, memory problems), muscle twitching, excessive sweating, shivering or shaking, diarrhea, trouble with coordination, and/or fever.

3 - MB with dopaminergic substances.

If MB is combined with L-DOPA, selegiline, or stimulants (Adderall), it can inhibit dopamine breakdown and increase synthesis via mitochondrial effects. This risks dopaminergic overstimulation (agitation, insomnia, paranoia).

4 - MB can turn your brain blue

But only under specific conditions like high doses (>5 mg/kg or >300-400mg/day), chronic use (daily for months/years), IV administration, etc. Most cases are seen in post-mortem studies.

Greenish-blue discoloration of the brain and heart after treatment with methylene blue

Images in Forensics | Published: 17 September 2020

Volume 17, pages 148–151, (2021) Cite this article

Carlos Durão, Frederico Pedrosa & Ricardo Jorge Dinis-Oliveira

1206 Accesses 8 Citations 32 Altmetric Explore all metrics →

Abstract

Greenish-blue discoloration of the brain and heart was observed during the autopsy of a 63-year-old woman who had been treated with methylene blue for septic shock following a traffic accident. This "pistachio" or "avatar" discoloration occurs when the colorless metabolite leucomethylene blue is oxidized to methylene blue upon exposure to atmospheric oxygen. Other clinically documented adverse effects of methylene blue include greenish-blue urine and bluish discoloration of the skin and mucosa. In medicine, methylene blue is an inhibitor of nitric oxide synthase and guanylate cyclase with different clinical applications, namely, rapid reversal of circulatory shock that is refractory to fluid administration, inotropic agents, and vasoconstrictors. Postmortem differential diagnosis with putrefaction and hydrogen sulfide poisoning should be made, and forensic pathologists should be aware of methylene blue-related greenish-blue discoloration to avoid unnecessary workup and investigations.

Here are supplements and substances to AVOID with Methylene Blue:

- 5-HTP • L-Tryptophan
- St. John's Wort
- Rhodiola rosea
- SAMe
- SSRIs, SNRIs, TCAs
- Tramadol, dextromethorphan
- L-DOPA (mucuna pruriens)

To minimise die-off reactions if using MB: Start with micro-doses (0.5-1mg) and increase by 0.5mg every 4-5 days Stay hydrated with electrolytes. And don’t forget to take breaks between usage periods.

Who should NOT use Methylene Blue

- Anyone on SSRIs, SNRIs
- Pregnant or breastfeeding women
- Those with G6PD deficiency
- People with severe gut dysfunction or dysbiosis
- Individuals with kidney disease / renal insufficiency

Treatments

Nicotine

Nicotine & Mental Focus

Whenever you need deep focus for intensive work, use 3mg of nicotine.

It’s a cheat code for productivity. Unlike caffeine, nicotine has a shorter half-life. Which means less adrenal stress.

Nicotine & The Sympathetic Nervous System

Nicotine activates the sympathetic nervous system (your fight or flight mode). It releases:

- Dopamine
- Epinephrine
- Norepinephrine Which boosts your focus, energy, and metabolism. But remember…

Nicotine isn’t ideal near meals.

Why?

It hinders your digestion.

So avoid using it when eating to let your body stay in a calm (parasympathetic) state.

Nicotine For Brain Activity

Your brain loves burning fat for energy.

Especially during intense focus periods.

Nicotine helps mobilize fat, allowing your brain to use it as fuel.

This makes it an essential tool for maintaining high cognitive output, especially during prep.

Caffeine + Nicotine = a 100% increase in thermogenesis.

Nicotine Burns Fat

Here’s how nicotine accelerates fat loss:

• Dopamine acts as an appetite suppressant, increasing satiety.
• Epinephrine and norepinephrine elevates your basal metabolic rate & fatty acid oxidation.
• Nicotine also boosts Uncoupling Proteins (UCPs), which force the body to use more fat as a fuel source.

How to Use Nicotine Effectively

1mg nicotine with 100mg caffeine is a POWERFUL combination.

Chew half a nicotine gum (typically 2mg) with a cup of coffee.

However, if you tend to be anxious, use it sparingly.

Nicotine boosts catecholamines, which can increase anxiety.

Adding L-theanine or ashwagandha can help keep you calm.

Nicotine vs. Other Fat Burners

Nicotine is a unique uncoupling agent.

Unlike T3 or DNP, nicotine boosts fat burning without any intense side effects

(like heat from DNP or heart stress from T3).

It’s safer and effective when combined with caffeine, making it an excellent addition to your fat loss stack.

Motility Benefits

Nicotine also increases bowel motility.

If you're dealing with slow digestion or backed-up bowels...

Nicotine can definitely help to keep things moving.

Nutrient Partitioning & Fat Loss

Nicotine drives nutrients into muscle cells instead of fat cells during lipogenesis.

When combined with a good cardio routine...

It ensures more nutrients will go to preserving muscle rather than adding fat.

How To Use Nicotine Safely:

There’s a blood pressure response to nicotine.

It causes vasoconstriction, which increases blood pressure.

To mitigate this, take:

• 1200mg of Hawthorn Berry
• 1000mg of Citrulline
• 1000mg of Arginine

These supplements help promote vasodilation, ensuring good blood flow and reducing the risk of hypertension.

Use them alongside nicotine for a more balanced approach.

How To Implement Nicotine For Fat Loss

The best way to use nicotine for fat loss:

• 1mg nicotine + 100mg caffeine before fasted cardio
• Use it again after your first meal
• Another dose when you hit that afternoon crash

This keeps your focus and fat burning high throughout the day.

While minimizing other more intense fat burners.

Nicotine isn’t necessarily bad for you...

When used correctly, it can:

• Burn fat
• Improve digestion
• Increase cognitive performance

It’s up to you to figure out how to responsibly use it.

Treatments

Chlorine Dioxide (CDS / MMS)

CDS (Chlorine Dioxide Solution)

CDS is the gas disolved in water

- Evaporates as a gas from 11c upwards
- PH Neutral
- A furthur development of MMS
- CDS diffuses from the stomach into the body
- Great against:
  - Small bacteria & viruses
  - Acidic (proton rich) zones
- Does NOT
  - Enter the small intestines
  - Cause Diarrhea
  - Cause a secondary reaction in the stomach / React with HCL (Stomach acid)
  - Contain sodium chlorite (with a t)

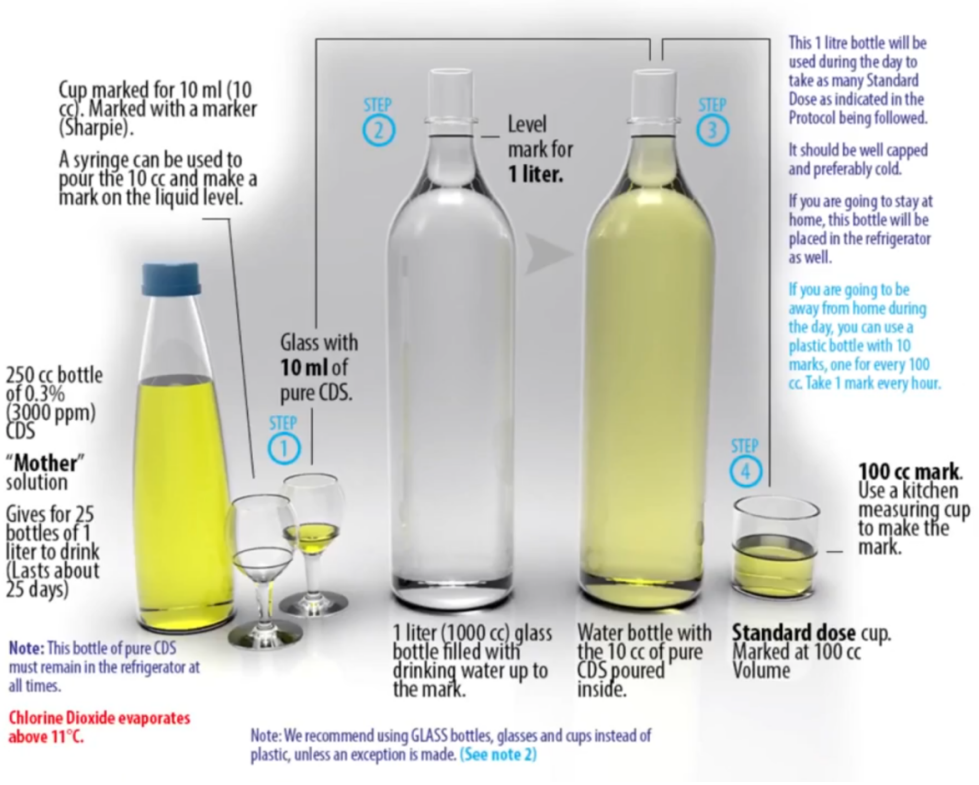
Protocol C

5mg of each bottle diffused into around 300ml of water twice over two 12 hours

Steps:

1. Fill sealable jar with 300ml - 350ml of water
2. Mix 5mg of 5% HCL (activator) with 5mg of 22% NaClo (Sodium cholorite) in a shot glass
3. Place shot glass in jar and seal then hide in darkness for 12 hours
4. Repeat step 1-3 again WITH THE SAME WATER AS BEFORE
5. Save the mixture from shot glass into a bottle to use as a disinfectant

6. Save CDS from gas now in water in GLASS bottle and never mix with stainless steel.



MMS (Master Mineral Solution) NaClO2

MMS is drinking the direct 2 drop mix in water

Tests

Testing for deficincies

Iodine
Put a drop or two of iodine on your skin, if the brown smudge is gone in less then 1 hour, iodine is low, if its still there after 5 hours, its ok

Low stomach acid / Low pH
Put 1/4 to 1/4 a tablespoot of bicarb soda in water, drink it on an empty stomach If it takes longer then 5 minutes, you have low stomach acid Solution: Take butain HCL in increasing dosage per day up to 4500 mg

Spike Protein Detox

- bromilane 500mg once a day
- nattokinase 2000U twice a day
- circumin 500mg 3x a day

for 12 months

Making Yoghurt

Making yoghurt is great to have more probiotcs.

What you need to get started:

- Yoghurt maker (keep the milk at a certain temprature for a certain amount of time)
- Milk

General instructions

1. Heat the milk at **85 degrees** celsius for **10 minutes** to kill any pathogens
2. Let the milk cool to **37 degrees**
3. Pour the probiotics into the milk and mix
4. Pour into containers and cook!
5. After cooking, pour in some vanilla essence and put in fridge

Probiotic	Temp	Fermentation time	Amount	Grower needed
ME-3	38	12 hrs	1 capsule / 400 ml	Inulin if needed
L Reuteri - BioGaia Gastrus (DSM 17938 + ATCC PTA 6475)	37	36-48 hrs	6 capsules / 1 litre	Inulin if needed
L Reuteri -				
Orthoplex multiflora	38	24 hrs	1 cap / litre	insulin to help other strains grow

AI Chats

AI Chats

T3 dosage and timing

ive got 10 mcg of compunded t3 to help with my high rt3, but i have to take it once int he morning 1 hour away from food, whats special about it and why does it need to be taken away from food. also what does it do in the body

Compounded T3 (liothyronine) is a custom-made version of the synthetic thyroid hormone triiodothyronine, prepared by a compounding pharmacy to match specific patient needs like your 10 mcg dose. Unlike commercial options (e.g., Cytomel, which comes in 5, 25, or 50 mcg tablets), it's tailored for precise dosing, often in capsules or sustained-release forms to minimize T3's short half-life spikes. At 10 mcg, it's a low starting dose suitable for addressing high reverse T3 (rT3) without overwhelming your system—typical full replacement might range 25-75 mcg daily, split into 2-3 doses, but 10 mcg once daily tests tolerance while targeting rT3 imbalance.

Why Take It 1 Hour Away from Food

Food, especially calcium-rich or high-fiber items, binds to T3 in the gut, reducing absorption by up to 20-30% and causing erratic levels. An empty stomach maximizes uptake into the bloodstream, ensuring the full 10 mcg dose reaches your cells consistently. Some sources note T3 is less sensitive than T4 to this, but the 1-hour rule (or 30-60 minutes) still optimizes it, particularly for compounded forms where exact potency matters. Take with water only; coffee or supplements (e.g., iron, calcium) can interfere too.

What It Does in the Body

T3 is the active thyroid hormone—about 80% of what your thyroid produces is inactive T4, which converts to T3 for real work. It binds to receptors in nearly every cell, ramping up gene expression to boost metabolism: it increases oxygen use, energy production (via mitochondria), protein synthesis, and fat/glucose breakdown. This regulates heart rate, body temperature, brain function, bone growth, and gut motility. Effects peak 2-4 hours after dosing, fading by 12-24 hours, which is why splitting higher doses helps steady levels.

For high rT3 (an inactive T4 byproduct that blocks T3 action, often from stress, illness, or poor conversion), your 10 mcg T3 bypasses the conversion issue. It directly raises active T3, suppresses

excess T4 (cutting rT3 substrate), and restores the T3/rT3 ratio (>0.2 ideal). This counters rT3's "brake" on metabolism, potentially easing fatigue, cold intolerance, and brain fog without relying on faulty T4-to-T3 pathways. Track free T3, rT3, and TSH labs after 4-6 weeks to adjust.

AI Chats

Cayenne pepper usage and benifits

Cayenne pepper, from Capsicum annuum, contains capsaicin as its main active compound. Key benefits include:

- **Pain relief**: Capsaicin depletes substance P in nerves, reducing pain signals; topical use helps arthritis, neuropathy, and muscle aches; oral intake may ease migraines and cluster headaches.
- **Improved circulation**: Stimulates blood flow, dilates vessels, and lowers blood pressure via nitric oxide release; supports heart health by reducing LDL oxidation and platelet aggregation.
- **Metabolism boost**: Increases thermogenesis and fat oxidation; studies show 2-10 mg capsaicin daily raises calorie burn by 50-100 kcal, aiding weight loss when combined with diet.
- **Digestive aid**: Boosts saliva, gastric juices, and peristalsis; prevents ulcers by killing H. pylori and increasing mucus production; reduces acid reflux symptoms in some users.
- **Anti-inflammatory**: Inhibits COX-2 and cytokines; helps with psoriasis, IBD, and joint inflammation.
- **Antioxidant effects**: High in vitamins A, C, E, and flavonoids; neutralizes free radicals, supports immunity, and may lower cancer risk (lab studies on prostate/colon cells).
- **Nasal decongestion**: Clears sinuses via irritation-induced mucus flow; effective for allergies and colds.
- **Blood sugar control**: Improves insulin sensitivity; trials show 5 g cayenne daily lowers post-meal glucose in diabetics.

Oral cayenne pepper powder (ground dried Capsicum annuum fruits, typically 30,000–50,000 SHU) for internal consumption:

Dosage protocols

- Beginner: 1/8–1/4 tsp (250–500 mg) mixed in 8 oz warm water, tea, or food, 1–2x/day.
- Maintenance: 1/2–1 tsp (1–2 g) per dose, up to 3x/day (total 3–6 g).
- Therapeutic: 2–5 g/day split doses (e.g., 1 tsp in morning smoothie, 1 tsp in soup).
- Capsaicin-equivalent: 1 g powder ≈ 0.5–1 mg pure capsaicin; target 2–10 mg capsaicin daily for metabolic effects.

Administration methods

1. **Water suspension**: Stir powder into 6–8 oz warm (not boiling) water; add lemon/honey to mask heat. Drink quickly; follow with plain water or milk to cut burn.
2. **Food integration**: Sprinkle into soups, chili, eggs, rice, yogurt, or oatmeal. Fat (oil, avocado) enhances capsaicin absorption.
3. **Capsules**: Fill “00” capsules with 500–750 mg powder (pharmacy capsule machine). Take with full meal to prevent gastric irritation.
4. **Tincture proxy**: Mix 1 tsp powder in 2 oz vodka; shake 2 weeks, strain. 10–20 drops under tongue or in water (faster absorption, intense burn).
5. **Smoothie bomb**: Blend 1/2 tsp with banana, almond milk, ginger, turmeric for anti-inflammatory stack.

Absorption & bioavailability

- Capsaicin is lipophilic; pair with 5–10 g dietary fat for 20–30% higher uptake.
- Piperine (black pepper) increases absorption 2x; add 1/8 tsp per dose.
- Empty stomach: faster onset (10–20 min), higher peak burn.
- With food: slower absorption, reduced GI distress.

Therapeutic timelines

- Acute (pain, congestion): effects in 15–30 min.
- Metabolic boost: 1–2 weeks consistent use for measurable BMR increase.
- Blood sugar/pressure: 4–8 weeks at 3+ g/day.
- Anti-inflammatory: 2–4 weeks for joint/psoriasis relief.

Evidence-based effects (oral powder)

- **Weight loss**: Meta-analysis (2014, 20 trials) → 0.5–1 kg loss over 12 weeks with 2–6 mg capsaicin/day + calorie deficit.
- **Gastric ulcers**: 1997 study, 2 g/day cayenne reduced ulcer index 50% in H. pylori patients via mucus upregulation.
- **Migraine**: 1993 trial, intranasal capsaicin (equivalent oral 1 g/day) aborted clusters in 70%.
- **Blood pressure**: 2010 RCT, 5 g/day lowered systolic 8 mmHg in hypertensives.
- **Insulin sensitivity**: 2017 study, 5 g cayenne with meals cut postprandial glucose 20% in type 2 diabetics.

Side effect management

- **Heartburn/reflux**: Take with 8 oz milk or 1 tbsp olive oil; avoid lying down 30 min post-dose.
- **Stomach cramps**: Start low, titrate up 1/8 tsp every 3 days. Use enteric-coated capsules if raw powder irritates.
- **Night sweats**: Reduce evening dose; capsaicin raises core temp 0.5–1°C for 2–3 hrs.
- **Hemorrhoid flare**: Rare; discontinue if bleeding occurs.

- **Drug interactions**: Potentiates warfarin (case reports of INR spike); monitor if on blood thinners. Avoid with ACE inhibitors (cough synergy).

Contraindications

- Active peptic ulcer, GERD flare, IBS-D.
- Gallbladder removal (stimulates bile).
- Nightshade sensitivity.
- Pregnancy (high doses >10 g/day linked to fetal distress in animal models).

Sourcing & quality

- Organic, non-irradiated, 90,000+ SHU for max capsaicin.
- Test batch: 1/4 tsp should numb tongue in 30 sec, peak burn 2–3 min.
- Store airtight, cool, dark; potency drops 50% in 12 months.

Sample daily protocol (3 g target)

- 7 AM: 1/2 tsp in warm lemon water + 1/8 tsp black pepper.
- 1 PM: 1/2 tsp sprinkled on avocado toast.
- 6 PM: 1/2 tsp in miso soup or capsule with dinner. Rotate administration to prevent tolerance (capsaicin receptors desensitize after 5–7 days continuous high dose; 2 days off resets).

SIBO

SIBO Overview

What is SIBO?

SIBO (Small Intestinal Bacterial Overgrowth) is a condition where excessive bacteria colonise the small intestine — an area that should have relatively few bacteria compared to the large intestine. These misplaced bacteria ferment food that passes through, producing gases (hydrogen, methane, hydrogen sulfide) and inflammatory byproducts that cause a cascade of symptoms throughout the body.

Symptoms

Direct gut symptoms:

- Constant bloating — even from water
- Reflux / GERD
- Gas and abdominal discomfort
- Irregular bowel movements

Systemic symptoms (caused by the gut-lung axis and systemic inflammation):

- Post-nasal drip — SIBO triggers systemic immune responses including inflammatory cytokines that circulate through the body, causing inflammation that affects nasal passages and sinuses, leading to increased mucus production
- Tinnitus — from chronic mucus buildup in the head and eustachian tubes
- Inflammatory reactions to sugar — bacteria ferment sugars rapidly, producing inflammatory byproducts that enter the bloodstream and cause peripheral inflammation (e.g. itchy, inflamed legs and ankles)
- Fatigue and brain fog
- Skin conditions (acne, rashes, hives)

The reflux-mucus feedback loop: Acid reflux can cause post-nasal drip by irritating the throat, while chronic throat clearing from post-nasal drip worsens reflux, creating a self-reinforcing cycle. The bloating, reflux, post-nasal drip, and tinnitus are all interconnected, not separate issues.

Why Antibiotics Alone Fail

Standard pharmaceutical antibiotics (Rifaximin, Neomycin) can reduce bacterial load but have a ~67% relapse rate — meaning two out of three people end up right back where they started. One study found that up to 44% of patients experience SIBO recurrence within 9 months of completing antibiotics.

The reason: antibiotics address the overgrowth but not the underlying cause — impaired gut motility.

The Migrating Motor Complex (MMC)

The MMC is the small intestine's natural cleansing wave, responsible for sweeping bacteria and food debris out of the small intestine and into the colon between meals. It only activates during fasting — between meals — roughly every 90-120 minutes. If the MMC isn't functioning properly, even successful SIBO treatment will result in relapse.

Factors that impair MMC:

- Stress
- Sluggish thyroid
- Irregular eating patterns / snacking
- Post-infectious autoimmune nerve damage (e.g. food poisoning damaging the vagus nerve)
- Bacteria/immune imbalances
- Certain medications

Meal spacing rules for MMC support:

- Minimum 4-5 hours between meals
- No snacking between meals
- 12+ hours overnight fast
- No eating 2 hours before bed
- This allows the MMC to activate between meals and sweep bacteria out

Prokinetics are substances that stimulate the MMC. They are not laxatives — laxatives work on the colon and do not stimulate the MMC. Prokinetics primarily work on the oesophagus, stomach, and small intestine. Prokinetic support is critical for preventing SIBO relapse and should be maintained throughout treatment and potentially beyond.

How SIBO Develops

SIBO can develop from anything that slows gut motility or disrupts the natural bacterial balance:

- Constipation (from any cause) — when things slow down and food spends more time in the intestines, bacteria have more time to ferment and multiply
- Post-infectious IBS — food poisoning can damage the nerves that control the MMC
- Low stomach acid — stomach acid is a natural barrier against bacteria entering the small intestine
- Structural issues — adhesions, strictures, or anatomical variations
- Medications — PPIs (proton pump inhibitors), opioids, and others that slow motility
- Dietary factors — very low fibre diets can reduce bowel movement frequency, allowing bacterial overgrowth

Treatment plan

Overview

Phase	Duration	Focus
Phase 1	Weeks 1–6	SIBO yogurt + motility support + biofilm disruptors from week 2
Phase 2	Weeks 7–8	Biofilm disruption continues (pre-load for antimicrobials)
Phase 3	Weeks 9–14	Biofilm disruptors + herbal antimicrobials
Phase 4	Week 15+	Retest breath test + assess

Phase 1 — SIBO Yogurt + Motility Support (Weeks 1–6)

Goal: Establish yogurt probiotic strains in the gut. Their bacteriocins (natural antimicrobials) kill SIBO bacteria. Prokinetics support MMC to sweep dead bacteria out. Biofilm disruptors from week 2 strip protective shields off bacteria, giving bacteriocins better access.

Week 1: SIBO yogurt + prokinetics only. Ramp up yogurt dose gradually (2-3 tablespoons → ¼ cup → ½ cup). Confirm tolerance before adding biofilm disruptors.

Week 2 onward: Add NAC + serrapeptase (biofilm disruptors). These don't kill bacteria — they strip biofilm shields, making the yogurt's bacteriocins more effective. Safe alongside yogurt.

Week 6 Assessment

Assess: bloating, post-nasal drip, tinnitus, reflux, sugar/inflammatory reactions.

Tracking method: Score bloating, reflux, ears, and post-nasal drip out of 10 at baseline, end of week 2, week 4, and week 6. Comparing snapshots shows trends better than daily observation.

Optional home testing: The AIRE device (~$200 AUD) is a personal breath hydrogen meter that lets you track SIBO levels at home without booking a formal breath test.

If significant improvement: Continue yogurt + prokinetics as maintenance. Consider booking a breath retest to confirm. May be able to maintain on yogurt + Iberogast + LDN alone.

If minimal or no improvement: Move to Phase 2.

Expected Timeline for Symptom Changes

- Week 1-2: Possible die-off symptoms (increased gas, bloating, skin reactions, acne) — can be a good sign that bacteriocins are active. Or nothing noticeable yet.
- Week 2-3: First subtle changes — reduced bloating after meals/water. Possibly better energy or mood (L. reuteri oxytocin effect).
- Week 3-4: Reflux should start improving. L. gasseri clinical studies showed symptom improvement at 4 weeks.
- Week 4-6: Systemic inflammatory symptoms (post-nasal drip, blocked ears, tinnitus) — these are furthest downstream from the gut and improve last. The gut has to heal first, then systemic inflammation calms, then mucus production reduces, then existing mucus drains.

Phase 2 — Biofilm Disruption Pre-Load (Weeks 7–8)

Goal: Continue stripping biofilms in preparation for herbal antimicrobials in Phase 3. If NAC + serrapeptase were started in week 2 of Phase 1, you already have 4 weeks of biofilm disruption done — the bacteria are already exposed and vulnerable.

SIBO yogurt can continue during this phase — biofilm disruptors don't kill bacteria.

Phase 3 — Herbal Antimicrobials + Biofilm Disruptors (Weeks 9–14)

Goal: Kill remaining SIBO bacteria with herbal antimicrobials while continuing biofilm disruption.

STOP SIBO yogurt during this phase. Antimicrobials kill yogurt strains and SIBO bacteria indiscriminately. Berberine specifically blocks the yogurt's benefits (confirmed by Davis's Inner

Circle). Resume yogurt after this phase.

Weeks 9-12: Berberine + Allicin (primary antimicrobials) + NAC + serrapeptase (biofilm disruptors) + prokinetics.

Weeks 13-14 (if symptoms persist): Rotate to Oregano Oil + Neem. Rotation prevents bacterial adaptation. Continue NAC + prokinetics.

Phase 4 — Retest + Reassess (Week 15+)

1. Stop all antimicrobials and biofilm disruptors
2. Resume SIBO yogurt (½ cup daily)
3. Continue prokinetics (Iberogast + LDN + ginger)
4. Breath retest — wait at least 2 weeks after stopping antimicrobials before testing

Results Interpretation

- **Normalised + symptoms resolved:** Continue yogurt + prokinetics for 3 months, then trial stopping everything except meal spacing. If symptoms return within 3 months, add back Iberogast as minimum maintenance.
- **Improved but not normalised:** Second antimicrobial round with rotation herbs (oregano + neem if not yet tried, or vice versa), or consider elemental diet.
- **No improvement:** Elemental diet or prescription prokinetics (low-dose erythromycin, prucalopride).

SIBO

SIBO Yogurt & The Three Probiotic Strains

What is SIBO Yogurt?

Developed by Dr. William Davis, SIBO yogurt is a 36-hour fermented dairy product containing three specific probiotic strains that produce bacteriocins — natural antimicrobial compounds that selectively kill SIBO bacteria. The extended 36-hour fermentation amplifies the bacteria to colony counts in the hundreds of billions per serving — far beyond what swallowing capsules directly would deliver.

Of around 30 people who tried SIBO Yogurt in Davis's preliminary observation, 90% normalised breath hydrogen and obtained relief from symptoms. This is from a small, informal observation — not a controlled study — but the reasoning is sound, the risk is low, and many people report positive results.

Davis now suggests people try the SIBO Yogurt before trying anything else, because it's low-risk and the preliminary results are strong.

Dose and Timing

- **Daily amount:** ½ cup (~150ml), mixed from equal portions of each strain
- **When:** Morning/daytime with breakfast. Davis recommends daytime consumption — if the yogurt kills adverse microbes, you want any die-off reaction to happen during the day and not disrupt sleep.
- **Ramp-up:** Days 1-3: 2-3 tablespoons. Days 4-7: ¼ cup. Week 2 onward: ½ cup.
- **Optional:** 2-3 tablespoons with dinner to maintain bacteriocin presence into the evening

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The Three Strains

Each species has many strains. Only the specific strains below produce the bacteriocins needed to target SIBO bacteria. Using the wrong strain will not work.

Bacteria	Required Strain	Product	Amount per 400ml Batch (first batch)	CFU
L. reuteri	DSM 17938 + ATCC PTA 6475	BioGaia Gastrus	4 capsules, crushed	200M per capsule → 800M total
L. gasseri	BNR17	Dr. Mercola Biothin Probiotic	1 capsule, opened	10B per capsule
B. subtilis	HU58	Microbiome Labs HU58	1 capsule, opened	5B per capsule

Other acceptable L. reuteri strains: LRDR, LR007, SD 5865 (but DSM 17938 + ATCC PTA 6475 in BioGaia Gastrus are the standard).

Note on B. subtilis vs B. coagulans: Davis's original recipe used Bacillus coagulans GBI-30 6086 (Schiff Digestive Advantage). The updated recipe replaces it with B. subtilis HU58, which produces more consistent counts during fermentation and has stronger biofilm-disrupting properties. Both are valid. Davis also recommends fermenting B. subtilis separately from the other two strains.

Strain 1: Lactobacillus reuteri (DSM 17938 + ATCC PTA 6475)

What It Is

A lactic acid-producing bacterium that naturally lives in the human gut, urinary tract, skin, and breast milk. Technically reclassified to *Limosilactobacillus reuteri* in 2020 — same organism, updated taxonomy. DSM 17938 is the most studied probiotic strain in the world, with over 200 clinical trials involving more than 19,000 people.

Primary Weapon — Reuterin

L. reuteri produces reuterin, a potent antimicrobial compound able to inhibit the growth of gram-positive and gram-negative bacteria, fungi, and protozoa. Reuterin is created when the bacteria metabolise glycerol. It's a broad-spectrum natural antibiotic that kills a wide range of pathogens without the resistance problems that pharmaceutical antibiotics create. This is the main reason it's in the SIBO yogurt. A microbiologist with 40 years of experience told Davis that they sometimes

clean their bacterial production vats with L. reuteri because of how effective reuterin is at killing unwanted organisms.

How It Colonises

The strain employs competitive exclusion, physically outcompeting undesirable microbes for resources and colonisation sites on the intestinal lining. It adheres to mucin, the protective layer coating the intestinal epithelium, using specific surface proteins. By occupying these sites, it prevents harmful bacteria from establishing a foothold. It also survives stomach acid and bile, which many probiotic strains can't do.

Motility Benefits (Directly Relevant to SIBO)

L. reuteri supplementation improved bowel movements and stool consistency. The possible explanation is that L. reuteri increased both frequency of colonic myoelectric motility complex and velocity. It doesn't just kill bacteria — it actually speeds up gut motility, providing a prokinetic effect on top of the antimicrobial effect.

Biofilm Trick

L. reuteri forms a biofilm rich in probiotic functions, inhibits the production of proinflammatory cytokines, and prevents intestinal overgrowth by other commensals. The SIBO bacteria form biofilms to protect themselves, but L. reuteri forms its own protective biofilm on the intestinal wall that works in your favour, acting as a barrier against pathogenic bacteria.

Other Effects Beyond SIBO

- Anti-inflammatory — reduces proinflammatory cytokines (relevant to systemic inflammation, leg inflammation with sugar, post-nasal drip)
- Increased production of mucin and antioxidant substances, stabilised the mucosal barrier, stimulated mucosal immunity
- Promotes regulatory T cell development — modulates immune system rather than just ramping it up
- Increases oxytocin production — may explain improved mood and sleep reports
- Classified as a psychobiotic — documented effects on the gut-brain axis

The Two Strains in BioGaia Gastrus

DSM 17938 is the antimicrobial and motility workhorse. ATCC PTA 6475 contributes additional anti-inflammatory effects and has been specifically studied for bone health (it's the strain in BioGaia Osfortis). Together they cover both the killing and the healing.

Important Note — Histamine

L. reuteri produces histamine. People with histamine intolerance can react badly — experiencing bloating, headaches, skin rashes, and diarrhoea. However, histamine intolerance is often itself a symptom of SIBO, because the invading bacteria outnumber the histamine-metabolising species in the small intestine. Davis's approach is to start with reduced quantities and build up slowly.

Strain 2: Lactobacillus gasseri (BNR17)

What It Is

L. gasseri BNR17 was first isolated from human breast milk. It's a normal inhabitant of the human intestinal tract. L. gasseri produces gassericin A, a bacteriocin. Davis considers it a "keystone" species in the gut microbiome, meaning it influences the behaviour and survival of many other bacterial species around it.

Why Davis Chose It for SIBO

L. gasseri stands out for its ability to colonise the upper GI tract and produce bacteriocins — natural antibiotics effective against species such as E. coli, Klebsiella, and Staphylococcus, which are responsible for small intestinal bacterial overgrowth. The key phrase is "upper GI tract." Most probiotics colonise the large intestine. L. gasseri specifically colonises the small intestine where the SIBO bacteria are.

Bacteriocin Production

Davis describes L. gasseri as producing up to 7 different bacteriocins, making it a "bacteriocin powerhouse." Bacteriocins are small protein compounds that punch holes in the cell membranes of competing bacteria, killing them. These compounds selectively inhibit harmful bacteria while leaving beneficial species alone — not indiscriminate like pharmaceutical antibiotics.

How It Fights SIBO Bacteria

L. gasseri BNR17 is characterised by acid and bile resistance, binding to colonic cells, antibacterial properties against food-borne pathogens including Staphylococcus aureus, Escherichia coli O157:H7, Listeria monocytogenes, Salmonella typhimurium, and Bacillus cereus, and production of antibacterial substances such as bacteriocin. It also produces lactic acid and hydrogen peroxide, both of which create an inhospitable environment for SIBO bacteria.

Colonisation Evidence

After intervention for four weeks, L. gasseri BNR17 was found in all subjects who consumed it, with statistically significant results. It actually makes it through the stomach alive and establishes itself in the gut. Many probiotic strains fail this test.

Confirmed Reduction in IBS Symptoms

Among IBS symptom scores, abdominal pain score was significantly reduced in the high-dose group. Davis's position is that L. gasseri reduces symptoms of functional dyspepsia (heartburn after a meal). Directly relevant to reflux.

Bonus Effects

- Visceral fat reduction — multiple studies show L. gasseri strains BNR17 and SBT2055 may reduce visceral fat, body weight, and waist circumference by decreasing fat absorption
- Blood sugar support — BNR17 converts dietary carbohydrates to indigestible fibres (exopolysaccharides), meaning less sugar available for absorption
- Stress reduction and anxiety — preliminary evidence
- Candida suppression — preliminary evidence

Strain 3: Bacillus subtilis (HU58)

What It Is

A completely different type of organism from the two lactobacillus strains. The Bacillus subtilis HU58 strain was first isolated from a healthy human microbiome by spore expert Professor Simon Cutting at Royal Holloway University London. Unlike L. reuteri and L. gasseri, B. subtilis is a spore-

forming bacterium.

The Spore Advantage

B. subtilis HU58 boasts a near 100% survivability rate through harsh gastric passage, ensuring the full clinical dose reaches the lower gastrointestinal tract intact. B. subtilis wraps itself in an endospore — biological armour that protects from extreme heat, pressure, dehydration, and the acidic stomach environment. Researchers once revived Bacillus spores from a 25-million-year-old bee preserved in amber. This is also why it survives 36-hour yogurt fermentation reliably and why Davis switched to it from B. coagulans (which was less consistent).

How It Works Once It Arrives

Once the spores reach the nutrient-rich environment of the large intestine, they undergo germination — shedding their protective coating, returning to active vegetative state, and colonising the gut lining. During this active phase, Bacillus subtilis forms protective biofilms along the intestinal mucosa, interacts directly with host immune cells, and exerts broad-spectrum health benefits.

Antimicrobial Output

B. subtilis HU58 secretes potent antimicrobial peptides known as bacteriocins. Compounds such as amicoumacin A act as targeted natural antibiotics within the gut. It produces over 12 different targeted antibiotics in the intestines and more than two dozen beneficial metabolites total, including nattokinase (a natural biofilm disruptor), B vitamins, short-chain fatty acids, and vitamin K2.

Competitive Exclusion — The Bouncer Effect

B. subtilis HU58 is one of the most potent strains for natural crowding out of unwanted flora in the gut and small intestine. It physically outcompetes pathogens for space and resources. Published data shows a 20% reduction in ammonia and hydrogen gas (the gases SIBO bacteria produce, causing bloating) and a 40% increase in short-chain fatty acid production (SCFAs feed gut lining cells and reduce inflammation).

The Leaky Gut Repair Function

The unique contribution B. subtilis brings that the lactobacillus strains don't. HU58 physically tightens gaps between intestinal cells by upregulating key structural proteins — ZO-1, occludin, and claudin-1 — effectively plugging leaks in the gut lining. This prevents translocation of LPS (lipopolysaccharide) toxins into the bloodstream. In a 30-day human trial, participants taking a spore-based probiotic containing HU58 experienced a 42% reduction in circulating endotoxins after a high-fat meal, compared to a 36% *increase* in the placebo group. Directly relevant to inflammatory reactions — if the gut lining is leaky, bacterial toxins enter the bloodstream causing systemic inflammation.

Role in the SIBO Yogurt

B. subtilis can grow and sporulate with high efficiency in anaerobic conditions in the gastrointestinal tract, form biofilms which enhance gut colonisation, and produce surfactants which enhance gut adhesion. It's the enforcer of the three.

How the Three Work Together

This isn't three random probiotics. Each one fills a specific gap:

L. reuteri = the coloniser. Establishes a probiotic biofilm on the gut wall, produces reuterin (broad-spectrum antimicrobial), improves motility, reduces inflammation. The foundation.

L. gasseri = the SIBO sniper. Specifically colonises the small intestine (where SIBO lives), produces up to 7 bacteriocins that selectively target the types of bacteria responsible for SIBO (E. coli, Klebsiella, etc.), and reduces heartburn/reflux symptoms.

B. subtilis = the tank. 100% survivability through digestion, produces 12+ targeted antibiotics, repairs leaky gut at the cellular level, crowds out pathogens through competitive exclusion, and produces nattokinase (a natural biofilm disruptor — partially doing biofilm work from inside the yogurt).

The 36-hour fermentation amplifies all three to colony counts in the hundreds of billions per serving — far beyond what swallowing capsules directly would deliver.

Yogurt Recipe

Equipment

- 3 yogurt makers (ideal) or 1 with staggered batches
- 12 × 150ml jars (4 per strain, filled to ~100ml each)
- Kitchen thermometer
- Clean saucepan, mixing bowls/jugs, whisk

Ingredients per Strain (400ml batch)

	L. reuteri	L. gasseri	B. subtilis
Milk/cream mix	200ml full cream milk + 200ml pouring cream	200ml full cream milk + 200ml pouring cream	200ml full cream milk + 200ml pouring cream
Culture (first batch)	4 BioGaia Gastrus capsules, crushed	1 Mercola Biothin capsule, opened	1 HU58 capsule, opened
Culture (future batches)	2 tbsp from previous batch	2 tbsp from previous batch	2 tbsp from previous batch
Inulin	1 teaspoon	1 teaspoon	1 teaspoon
Optional	2-3 tbsp milk powder for thickness	2-3 tbsp milk powder for thickness	2-3 tbsp milk powder for thickness

Fermentation Temperatures (Separate Batches)

Strain	Temperature	Time
L. reuteri (BioGaia Gastrus)	36–37°C (97–98°F)	36 hours
L. gasseri (Mercola Biothin)	42–43°C (107–109°F)	36 hours
B. subtilis (HU58)	46°C (115°F)	36 hours

L. reuteri dies above 43°C. The lower temperature of 36-37°C also slows acid production, which reduces whey separation.

If only one yogurt maker is available, use 38°C as a universal compromise temperature for all three — it works, just not at peak efficiency for L. gasseri and B. subtilis.

Method

1. Sterilise. Pour boiling water into all 12 jars and lids, mixing jug/pot, thermometer, and spoons/whisks. Let sit for a minute, pour out, air dry. Don't skip this — contamination is how you get bad batches.

2. Mix the milk and cream. For each strain, measure 200ml full cream milk + 200ml pouring cream into a clean saucepan (400ml per strain). You can do all 1.2 litres in one pot and split later. Optional: whisk in 2-3 tablespoons milk powder per 400ml for extra thickness.

3. Heat. Bring to 85°C and hold for 15 minutes. Stir occasionally to prevent a skin forming. This denatures whey proteins so they integrate into the curd rather than separating, and kills competing bacteria.

4. Cool. Remove from heat and let cool to 37°C. Use thermometer — don't guess. Speed up by placing pot in a sink of cold water and stirring. Don't let it cool below 35°C.

5. Split into three portions. Pour roughly 400ml into each of three separate clean bowls/jugs — one per strain.

6. Add cultures and inulin. Add inulin AFTER heating and cooling — heat degrades the prebiotic fibre chains.

- **Bowl 1 (L. reuteri):** Crush 4 BioGaia Gastrus capsules. Add powder + 1 teaspoon inulin. Whisk thoroughly.
- **Bowl 2 (L. gasseri):** Open 1 Mercola Biothin capsule. Add powder + 1 teaspoon inulin. Whisk thoroughly.
- **Bowl 3 (B. subtilis):** Open 1 HU58 capsule. Add powder + 1 teaspoon inulin. Whisk thoroughly.

7. Pour into jars. Pour each bowl into its 4 jars, filling to ~100ml each. Leave headroom.

8. Set yogurt makers.

- Yogurt maker 1 (L. reuteri): **36–37°C**
- Yogurt maker 2 (L. gasseri): **42–43°C**
- Yogurt maker 3 (B. subtilis): **46°C**

9. Ferment for 36 hours. Don't open lids during fermentation. Set a timer. Bacteria only start multiplying significantly after 24 hours — the full 36 hours is critical. Don't go significantly over 40 hours or bacteria run out of substrate and yogurt becomes overly sour.

10. Refrigerate. Move all 12 jars to fridge. Chill at least 6 hours before eating. Yogurt continues to thicken as it cools.

11. Label and store. Label jars by strain. Keeps 7-10 days in fridge.

Subsequent Batches

Save 2-3 tablespoons of yogurt from each strain as starter for the next batch of the same strain. Future batches only need: milk/cream + inulin + starter. No new capsules needed.

Starter refresh: After approximately 8 generations, go back to fresh capsules. Over successive generations, the bacterial population gradually shifts toward strains best at fermenting dairy rather than producing bacteriocins. Bacteria that spend less energy on bacteriocin production and more on reproduction gradually outcompete the heavy producers. Genetic drift from billions of replication events also accumulates. Refreshing with lab-produced capsules resets the culture to full potency.

L. Reuteri Separation

L. reuteri separation into curds (clumpy top) and whey (watery bottom) is normal and extremely common. L. reuteri produces lactic acid but doesn't create the same stable protein network that traditional yogurt cultures (S. thermophilus, L. bulgaricus) do. It will never behave exactly like store-bought yogurt.

A separated batch is therapeutically identical to a non-separated batch. Bacteria are present in both curds and whey.

To reduce separation:

- Use half full cream milk + half pouring cream (higher fat holds structure)
- Add milk powder (more protein = more structure)
- Ferment at 36-37°C rather than 38°C (slower acid production)
- Use 1 teaspoon inulin, not more (too much fuel = overly aggressive fermentation)
- Use starter from previous batch — subsequent batches are typically thicker and more consistent

If it still separates:

- Stir together before eating
- Strain through fine mesh sieve or cheesecloth for thicker Greek-style result (drink the whey separately — it contains bacteria too)
- Blend with a stick blender for smooth drinkable consistency
- Use in a smoothie

Signs of a Good vs Bad Batch

- **Good:** Tangy/cheesy smell, pleasantly tart taste, thick or semi-thick texture, slight fizz possible
- **Normal (not a failure):** Whey separation, cottage cheese texture, thin/runny consistency, strong tangy smell — all cosmetic, not therapeutic issues
- **Bad (discard):** Pink/orange/green discolouration, foul or rotten smell (not just strong/tangy), slimy film on top, visible mould

Timing Tip

Start a batch early morning or evening so the 36-hour mark falls at a convenient time. At 4 jars per strain, one batch gives roughly 4 days of servings. Start the next batch on day 3 so there's no gap.

Supplements & Timing

Daily Schedule

Morning — Empty Stomach (30 min before breakfast)

Supplement	Dose	Why This Timing
NAC	600mg	Empty stomach ensures it targets biofilm proteins in the small intestine, not dietary protein from food. 30-minute head start lets it pass through the stomach and begin working before food arrives and dilutes it.
Serrapeptase	120,000 SPU	Proteolytic enzyme — with food, it burns through dietary protein instead of biofilm proteins. Must be empty stomach to reach biofilm targets.

Breakfast

Supplement	Dose	Why This Timing
ACV	1 tablespoon in water, 15 min before eating	Establishes acidic stomach environment before food enters. Acetic acid has mild antimicrobial properties in upper small intestine. Diluted by meal volume if taken with/after food.
Iberogast	20 drops, just before eating	Prokinetic — stimulates stomach and small intestine contractions right when food enters, pushing everything through faster. Less time for SIBO bacteria to ferment food = less gas, bloating, histamine. Liquid drops absorb faster on relatively empty stomach.

Supplement	Dose	Why This Timing
Ginger capsule	1000mg	Moved to bedtime in updated schedule (see below).
SIBO yogurt	½ cup (~150ml)	Food buffers stomach acid, giving more bacteria safe passage to the small intestine. Food also provides substrate for bacteria to establish and start producing bacteriocins. Morning dose is the main bacteriocin delivery.

Afternoon — Empty Stomach (2+ hours after last food)

Supplement	Dose	Why This Timing
NAC	600mg	Second dose maintains consistent biofilm disruption. NAC half-life is ~6 hours — without this dose, blood levels drop significantly by mid-afternoon and bacteria start rebuilding biofilm overnight.
Serrapeptase	120,000 SPU	Same empty-stomach logic. Second wave hits bacteria that survived the morning assault.

Before Dinner

Supplement	Dose	Why This Timing
ACV	1 tablespoon in water, 15 min before eating	Same as breakfast — acidic environment before food.
Iberogast	20 drops, just before eating	Same prokinetic effect as breakfast dose.
SIBO yogurt	2-3 tablespoons (optional)	Small evening dose maintains bacteriocin presence into the night. Not a full serving — Davis recommends keeping the main dose to daytime so die-off doesn't disrupt sleep.

Bedtime

Supplement	Dose	Why This Timing
Iberogast	40 drops (double the mealtime dose)	The overnight fast (15+ hours) is the most important MMC window — roughly 10 cleansing waves over the night. Higher dose provides stronger prokinetic stimulation when no food is triggering natural contractions.
Ginger	1000mg	Modulates 5-HT4 and 5-HT3 serotonin receptors. ~90% of body's serotonin is in the gut. Bedtime timing amplifies serotonergic signalling during the overnight fast, strengthening MMC contractions. Taken in the morning it's less impactful because eating shortly after shuts down the MMC anyway.
LDN	2.5mg	Briefly blocks opioid receptors, causing upregulated endorphin production. Endorphin production peaks during sleep, so bedtime timing maximises the rebound effect. The resulting endorphin surge has anti-inflammatory and motility-enhancing effects that persist through the night.

As Needed

Supplement	Dose	Why This Timing
Activated charcoal	1000mg	For die-off symptom flares (itching, headache, brain fog). Binds LPS endotoxin in the gut before it enters bloodstream. **Must be 2+ hours away from ALL other supplements and food** — charcoal binds everything indiscriminately. Relief typically within 15 minutes. Don't take around the clock, only as needed.

Weekly

Activity	Details
24-hour fast (optional)	Skip both meals one day per week. Water only. Take all supplements except yogurt as normal. MMC runs uninterrupted for 24+ hours, sweeping dead bacteria and debris. Yogurt bacteriocins from previous day still active.

Why the Bedtime Stack Matters Most

Three prokinetics stacked at bedtime with three different mechanisms maximises overnight MMC sweeping:

- **Iberogast:** Herbal motility stimulation (9-herb blend)
- **Ginger:** Serotonergic pathway (5-HT4/5-HT3 receptors)
- **LDN:** Opioid receptor antagonism → endorphin rebound

All three together means the overnight MMC runs stronger, sweeps more bacteria out of the small intestine, and moves dead bacteria + toxic debris into the colon for elimination. The morning bowel movement is flushing out the battlefield debris from the previous day's treatment.

Why NOT to Rearrange the Order

- Moving ginger to morning wastes the overnight MMC amplification — you eat shortly after and shut down the MMC anyway
- Moving NAC to with meals wastes it on food protein instead of biofilms
- Taking yogurt on empty stomach means more bacteria die in stomach acid before reaching the small intestine
- Taking charcoal near other supplements means charcoal absorbs the beneficial compounds

Dose Explanations

BioGaia Gastrus — 4 capsules per 400ml batch (10 per 1L)

Each capsule contains 200 million CFU. Davis's protocol calls for 2 billion CFU per litre as starting population. Scaled to 400ml: 4 capsules (800M CFU). Bacteria need enough critical mass to multiply into hundreds of billions during 36-hour fermentation.

Dr. Mercola Biothin — 1 capsule per 400ml batch

Each capsule is 10 billion CFU of L. gasseri BNR17. When fermenting separately at optimal 42-43°C, gasseri grows efficiently and doesn't need as high a starting count.

Microbiome Labs HU58 — 1 capsule per 400ml batch

B. subtilis is spore-forming with near 100% survivability. Reproduces aggressively. One capsule (5B CFU) establishes a viable colony.

Inulin — 1 teaspoon per 400ml batch

Prebiotic fibre — food for bacteria during fermentation. Without it, bacteria rely solely on lactose. Too much causes overly aggressive fermentation and increased separation. Scaled from 2 tablespoons/litre. Add after heating — heat degrades the fibre chains.

SIBO Yogurt — ½ cup daily

At 36-hour fermentation counts, half a cup delivers roughly 250-260 billion CFU. Once enough bacteria colonise the small intestine, the colony sustains itself. More yogurt doesn't mean proportionally more bacteriocin output — there's a colonisation ceiling.

Iberogast — 20 drops 3× daily

Manufacturer's standard adult dose. Bedtime dose higher (40 drops) because MMC is most active during overnight fasting. Dr. Siebecker allows up to 60 drops at bedtime for tougher cases.

Ginger — 1000mg

Prokinetic studies used 1000-1200mg. Below ~500mg, gingerol/shogaol concentrations aren't high enough to stimulate serotonergic pathways driving the MMC. Nutricost 550mg is a 4:1 extract equivalent to 2200mg raw ginger — only 1 capsule needed.

NAC — 600mg twice daily (1200mg total)

Clinical literature uses 600-1800mg daily. NAC's sulfhydryl group breaks disulfide bonds in biofilm mucopolysaccharide matrix. Above 1800mg increases GI side effects without proportionally better disruption. Twice-daily maintains consistent levels.

Serrapeptase — 120,000 SPU twice daily

SPU measures enzymatic activity, not weight. Standard therapeutic dose. Breaks down protein components of biofilm (NAC handles mucopolysaccharide components — complementary). Empty-stomach critical — with food, enzyme digests dietary protein instead of biofilm.

LDN — 2.5mg

Full-dose naltrexone (50mg) is an opioid antagonist for addiction. At 2.5-5mg, paradoxical effect — brief receptor blockade causes endorphin upregulation with anti-inflammatory and motility effects. 2.5mg for diarrhoea-predominant, 5mg for constipation-predominant. Bedtime because endorphin production peaks during sleep.

ACV — 1 tablespoon before meals

Supports stomach acid environment. Acetic acid has mild antimicrobial properties. 15-minute head start establishes acidic environment before food enters.

SIBO

Biofilm Disruptors

What Are Biofilms?

Many bacteria form a protective layer around themselves known as a biofilm — a slimy, structured matrix made of polysaccharides, proteins, and extracellular DNA. This shield makes them significantly more resistant to antibiotics, antimicrobials, and even your immune system. If previous antibiotic treatment only partially worked (e.g. breath test results halved but not normalised), biofilms are a likely reason — the antibiotics killed exposed bacteria but couldn't penetrate the shielded ones.

How Biofilm Disruptors Work

Biofilm disruptors don't kill bacteria. They strip the protective shield, exposing the bacteria underneath. Once exposed, the bacteria become vulnerable to:

- Bacteriocins from SIBO yogurt strains
- Herbal antimicrobials (berberine, allicin, etc.)
- Your own immune system

Biofilm disruptors taken before or alongside antimicrobial treatment make that treatment far more effective. A retrospective chart review found that adding biofilm disruptors to antimicrobials enhanced SIBO eradication rates compared to antimicrobials alone.

The Supplements

Supplement	Mechanism	Dose	When
NAC (N-Acetylcysteine)	Dissolves biofilm mucopolysaccharide matrix via disulfide bond disruption	600mg 2x daily	Empty stomach, 30 min before food/antimicrobials

Supplement	Mechanism	Dose	When
Serrapeptase	Proteolytic enzyme — breaks down the protein components of biofilm matrix	120,000 SPU 2x daily	Empty stomach
Nattokinase	Fibrinolytic enzyme — breaks down biofilm fibrin	Per label	Empty stomach
EDTA	Chelates minerals (Ca, Zn, Fe, Mg) that reinforce biofilm structure	Per label	Empty stomach

NAC handles the mucopolysaccharide components of biofilm. Serrapeptase handles the protein components. They're complementary — different mechanisms targeting different structural elements of the same biofilm. Together they're more effective than either alone.

Critical Rules

- **Always take on empty stomach** — 30 min before food or 2+ hours after. With food, serrapeptase digests dietary protein instead of biofilm protein. NAC gets diluted and diverted.
- **Do NOT take calcium, zinc, iron, or magnesium supplements within 3 hours** — these minerals reinforce biofilms. Bacteria use them to strengthen their protective matrix.
- **Trace calcium in capsule filler is fine** — tricalcium phosphate and calcium stearate in serrapeptase capsules are ~20-30mg, negligible compared to supplemental doses of 500-1000mg.
- **Stay well hydrated** — biofilm disruption releases toxins trapped under the biofilm. Water helps kidneys flush them.
- **Die-off symptoms are possible** — fatigue, headache, brain fog may occur in first 3-5 days as previously-shielded bacteria are exposed and killed.

When to Use Them

Phase 1 (from week 2): NAC + serrapeptase alongside SIBO yogurt. Biofilm disruptors are safe with yogurt — they strip shields off SIBO bacteria, giving the yogurt's bacteriocins better access. They don't harm the yogurt strains. B. subtilis HU58 in the yogurt already produces nattokinase (a natural biofilm disruptor), so NAC and serrapeptase amplify what the yogurt is already doing.

Phase 2 (weeks 7-8): Continue NAC + serrapeptase as pre-load for herbal antimicrobials. By this point you have 4+ weeks of biofilm disruption done.

Phase 3 (weeks 9-14): Continue NAC + serrapeptase alongside herbal antimicrobials. Exposed bacteria getting hit by berberine + allicin — this is the intended combination.

Note on B. subtilis HU58 as a Natural Biofilm Disruptor

B. subtilis HU58 (one of the yogurt strains) naturally produces nattokinase, which is itself a biofilm disruptor. So the SIBO yogurt is already doing some biofilm disruption on its own from the inside. Adding NAC and serrapeptase from the outside amplifies this effect.

Herbal Antimicrobials

Why Herbals Over Pharmaceuticals

One study found that 46% of patients on herbal antimicrobial treatment had a negative breath test after four weeks, compared to 34% on rifaximin alone. Herbal antimicrobials actually outperformed the pharmaceutical in that particular study.

Herbal antimicrobials don't cause the broad microbiome destruction that pharmaceutical antibiotics do. They're targeted, can be rotated to prevent resistance, and support rather than undermine gut health.

The Antimicrobials

Herb	What It Does	Dose	When	Duration
Berberine	Broad-spectrum antimicrobial. Disrupts bacterial DNA synthesis and cell membranes. Also lowers blood sugar.	500mg 2x daily	With meals (reduces GI upset)	4-8 weeks. Don't exceed 8 weeks continuous — can affect beneficial bacteria and liver enzymes.
Allicin (stabilised garlic extract)	Antimicrobial via thiosulfinate compounds. Particularly effective against methane-producing archaea — the hardest SIBO organisms to kill.	450mg 2x daily	With meals	4-8 weeks
Oregano oil (emulsified/enteric-coated)	Broad antimicrobial via carvacrol and thymol. Must be enteric-coated to avoid worsening reflux.	200mg 2-3x daily	Between meals, empty stomach	4-6 weeks

Herb	What It Does	Dose	When	Duration
Neem	Traditional Ayurvedic antimicrobial. Contains nimbidin and nimbin. Gentler on the system.	300mg 2x daily	With meals	4-6 weeks
Atrantil	Quebracho + horse chestnut + peppermint. Specifically targets methane-producing organisms.	2 caps 3x daily (first 10-20 days), then 2 caps daily	With meals	As needed

Rotation Protocol

Don't take all five at once. Rotation prevents bacterial adaptation.

Weeks 9-12: Berberine + Allicin. Berberine provides the broadest spectrum coverage. Allicin specifically targets methane producers. Different mechanisms — complementary.

Weeks 13-14 (if symptoms persist): Rotate to Oregano Oil + Neem. Different mechanisms of action from berberine/allicin. Surviving bacteria that adapted to berberine/allicin face an entirely new antimicrobial pressure.

If Phase 3 doesn't fully clear it: Atrantil can be layered in for methane-specific targeting. Consider elemental diet.

Critical Warning — Berberine and SIBO Yogurt

Do NOT take berberine alongside SIBO yogurt. Berberine blocks the yogurt's benefits (confirmed by Davis's Inner Circle). Stop the yogurt before starting berberine, resume after completing the antimicrobial phase. All herbal antimicrobials kill yogurt strains indiscriminately — berberine specifically interferes with the yogurt's mechanism of action.

Practical Notes

- **Berberine:** Short half-life (~4 hours), so splitting across two meals maintains even antimicrobial activity. Can cause mild GI upset initially — taking with food minimises this.
- **Allicin:** Must be stabilised extract (Allimax brand is most studied). Regular garlic supplements or dietary garlic won't deliver therapeutic allicin levels. The allicin in fresh garlic degrades rapidly after crushing.
- **Oregano oil:** If using with reflux, must be enteric-coated (ADP by Biotics Research) so it passes the stomach without irritating the oesophagus. If reflux worsens despite enteric coating, stop oregano and continue with just neem.
- **Neem:** Often used in rotation protocols because it's gentler and well-tolerated even in people with sensitive stomachs.

Prokinetics

What Are Prokinetics?

Prokinetics stimulate the Migrating Motor Complex (MMC) — the small intestine's natural cleansing wave that sweeps bacteria out between meals. They are NOT laxatives. Laxatives work on the colon and do not stimulate the MMC. Prokinetics primarily work on the oesophagus, stomach, and small intestine.

Prokinetics are arguably the most important part of any SIBO protocol. Without them, even successful bacterial eradication results in relapse because the underlying motility dysfunction that allowed SIBO to develop hasn't been addressed.

Prokinetics can be combined — they have different mechanisms of action. Example stacks: LDN + Iberogast + ginger.

Natural Prokinetics (No Prescription)

Product	Mechanism	Dose	When
Iberogast	9-herb blend. Stimulates motility + anti-spasmodic + anti-inflammatory.	20 drops 3x daily (before meals + bedtime). 40-60 drops at bedtime for stronger MMC support.	15-30 min before meals, and at bedtime
Ginger root extract	Modulates serotonergic 5-HT4 and 5-HT3 receptors in the gut wall. Supports gastric emptying and intestinal transit. ~90% of body's serotonin is in the gut.	1000mg (or Nutricost 550mg 4:1 extract = 2200mg equivalent, 1 capsule)	Bedtime — most valuable during overnight fast when MMC runs longest

Product	Mechanism	Dose	When
Artichoke leaf extract	Anti-spasmodic + choleretic (stimulates bile). Synergy with ginger — artichoke provides complementary actions alongside ginger's serotonergic activity.	600mg	After meals
MotilPro (Pure Encapsulations)	5-HTP + ginger (1000mg) + acetyl-L-carnitine + B6. Supports serotonin-driven gut motility.	3-6 capsules daily in divided doses	Between meals or bedtime. **May worsen reflux. Contraindicated with SSRIs due to 5-HTP content.**

Prescription Prokinetics (Discuss with GP)

Drug	Mechanism	Dose	Notes
Low-dose erythromycin	Motilin receptor agonist — directly stimulates the MMC. At 50mg this is NOT functioning as an antibiotic. Motilin is the hormone that triggers the MMC.	50mg at bedtime. May need compounding pharmacy.	One of the most potent prokinetics available. Long-term maintenance. Commonly prescribed by SIBO specialists (Dr. Pimentel, Dr. Siebecker).
Prucalopride (Resolor)	5-HT4 receptor agonist — stimulates serotonin receptors in the gut that drive intestinal contractions.	0.5-1mg at bedtime. Standard tablets come in 1mg and 2mg in AU.	PBS-listed in AU. Originally approved for chronic constipation, used off-label for SIBO prevention. Particularly useful if constipation is part of the picture.
Low Dose Naltrexone (LDN)	At 2.5-5mg, briefly blocks opioid receptors → body upregulates endorphin production → anti-inflammatory and motility-enhancing effects.	2.5mg (diarrhoea types) or 5mg (constipation types) at bedtime	Bedtime timing deliberate — endorphin production peaks during sleep, maximising rebound effect.

Why Bedtime Stacking

The overnight fast (e.g. 4pm dinner to 7am breakfast = 15 hours) is the most important MMC window. Roughly 10 cleansing waves over the night. Stacking three prokinetics at bedtime with different mechanisms maximises the strength of those waves:

- **Iberogast (40 drops):** Herbal motility stimulation. Higher dose because no food triggers natural contractions overnight.
- **Ginger (1000mg):** Serotonergic pathway amplification during the longest fasting window.
- **LDN (2.5mg):** Endorphin rebound during sleep.

The morning bowel movement is the result — flushing out the debris swept by overnight MMC activity.

Ginger Product Note

Nutricost Ginger Root Extract 550mg is a 4:1 concentrate — each capsule is equivalent to 2,200mg of raw ginger root. Only 1 capsule per day needed. This is stronger per capsule than ground root powder products (NOW Foods 550mg, Swanson 540mg) which require 2 capsules for ~1100mg of unconcentrated root.

Lifestream Ginger is a 1000mg extract per capsule — also good, available at Mr Vitamins AU.

Diet & Food List

Why Diet Matters During SIBO Treatment

Every time you eat something highly fermentable, you're giving the surviving SIBO bacteria a meal that helps them recover between bacteriocin attacks. The dietary changes aren't the treatment — they're about not feeding the bacteria you're actively trying to kill.

SIBO bacteria ferment FODMAPs (Fermentable Oligosaccharides, Disaccharides, Monosaccharides, And Polyols). When bacteria consume these fermentable carbohydrates in your digestive tract, they produce gases as a byproduct — this is the fermentation that causes bloating, reflux, and the inflammatory cascade.

The simplest rule: eat protein, low-FODMAP vegetables, rice, and good fats. Avoid anything that makes you noticeably more bloated within 1-2 hours of eating — your body is already telling you what feeds the bacteria.

These foods are low in fermentable carbohydrates, meaning they won't feed the bacteria you're trying to kill. This isn't a forever diet — it's a 2-month treatment window. After SIBO is cleared, foods get reintroduced gradually.

Protein

Protein doesn't feed SIBO bacteria. Eat as much as you want.

- Beef (all cuts)
- Lamb
- Chicken (all cuts)
- Turkey
- Pork (all cuts)
- Duck
- Kangaroo
- Bacon (check for added sugars/honey glaze — plain is fine)

- Eggs (any style)
- Salmon
- Tuna
- Prawns
- Barramundi
- Snapper
- Cod
- Sardines (tinned in olive oil)
- Anchovies
- Mussels
- Oysters
- Squid/calamari
- Firm tofu (silken tofu is higher FODMAP)

Avoid: Marinated meats with garlic/onion, processed meats with added sugars (check salami, sausages, deli meats for hidden ingredients), battered/crumbed anything (wheat coating)

Vegetables

Cook your vegetables where possible — raw can be harder to digest during treatment.

- Carrots
- Zucchini/courgette
- Spinach
- Kale
- Lettuce (all types)
- Rocket/arugula
- Cucumber
- Capsicum/bell pepper (all colours)
- Tomatoes
- Green beans
- Bok choy
- Bean sprouts
- Choy sum
- Eggplant
- Potato (white — moderate portions)
- Parsnip (small portions)
- Pumpkin (small portions — large amounts are moderate FODMAP)
- Bamboo shoots
- Chives (use instead of onion for flavour)
- Spring onion (green part only — the white bulb is high FODMAP)
- Ginger root (fresh — also a prokinetic bonus)
- Chilli

- Radish
- Turnip
- Olives
- Seaweed/nori
- Fennel bulb (small portions)
- Sweet potato (small portions — moderate FODMAP in large amounts)

Avoid: Onion (all types), garlic, asparagus, artichoke, cauliflower (large amounts), broccoli (large amounts — very small portions may be tolerated), mushrooms, sugar snap peas, leeks, beetroot (large amounts), celery, sweetcorn

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Fruit

Keep fruit to 1-2 servings per day maximum. Even low-FODMAP fruits contain some natural sugars that bacteria can ferment if you overdo it.

- Blueberries
- Strawberries
- Raspberries
- Cranberries
- Kiwi fruit
- Oranges
- Mandarins/clementines
- Lemons
- Limes
- Grapes (small handful)
- Rockmelon/cantaloupe
- Honeydew melon
- Pineapple
- Passionfruit
- Papaya/pawpaw
- Dragonfruit
- Rhubarb
- Banana (firm/slightly unripe — ripe bananas are higher FODMAP)
- Coconut (fresh, small amounts)

Avoid: Apples, pears, watermelon, mango, cherries, peaches, nectarines, plums, apricots, dried fruit (all types), fruit juice, canned fruit in syrup

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Grains and Starches

White versions are generally better tolerated than wholegrain during SIBO treatment because they're absorbed higher up in the small intestine.

- White rice
- Brown rice (if tolerated)
- Quinoa
- Oats (plain, small portions — some people tolerate these, some don't; test and see)
- Rice noodles
- Rice cakes/crackers
- Buckwheat (despite the name, not wheat — it's a seed)
- Polenta/cornmeal
- Corn tortillas
- Tapioca
- Arrowroot
- Potato (also listed under vegetables — versatile)
- Sourdough spelt bread (the long fermentation reduces FODMAPs — but only genuine long-fermented sourdough, not the fake stuff from Coles)

Avoid: Wheat bread, regular pasta, couscous, rye bread, wheat cereals, wheat flour wraps, wheat-based crackers, muesli bars, wheat noodles

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Dairy

The SIBO yogurt is your main dairy. Other dairy depends on lactose content.

- SIBO yogurt (36-hour fermentation has consumed the lactose)
- Butter
- Ghee
- Hard aged cheeses: parmesan, cheddar, Swiss, Gruyère, pecorino, aged gouda
- Brie (low lactose)
- Camembert (low lactose)
- Feta (small portions)
- Cream cheese (small portions)
- Lactose-free milk (if you need milk for anything)
- Pouring cream (low lactose — mostly fat)

Avoid: Regular milk, soft fresh cheeses (ricotta, cottage cheese), ice cream, custard, regular yogurt (commercial, not your 36-hour fermented SIBO yogurt)

Fats and Oils

Fat doesn't feed SIBO bacteria. Use liberally.

- Extra virgin olive oil (bonus: supports gut motility)
- Coconut oil
- Butter/ghee
- Avocado oil
- Macadamia oil
- Animal fats (tallow, lard, duck fat)
- Avocado (limit to ¼–⅓ at a time — larger portions are moderate FODMAP)

Avoid: Vegetable/seed oils (canola, sunflower, soybean) — not because of FODMAPs but because they're inflammatory and you're trying to reduce inflammation

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Nuts and Seeds

Good for snacking but keep portions moderate — some become moderate FODMAP in large amounts.

- Macadamias
- Walnuts
- Pecans
- Peanuts (technically a legume but low FODMAP)
- Peanut butter (natural, no added sugar)
- Pine nuts
- Pumpkin seeds (pepitas)
- Sunflower seeds
- Sesame seeds
- Chia seeds (small amounts)
- Linseeds/flaxseeds (small amounts)
- Brazil nuts (2-3 max)
- Almond butter (small amounts)
- Almonds (limit to 10-12 — larger amounts are moderate FODMAP)

Avoid: Cashews, pistachios — both are high FODMAP. Large quantities of any nut.

Herbs, Spices and Seasonings

Use these heavily for flavour since you're losing onion and garlic.

- Salt and pepper

- Ginger (fresh or dried)
- Turmeric (anti-inflammatory bonus)
- Cumin
- Paprika (sweet and smoked)
- Coriander/cilantro (fresh and ground)
- Basil (fresh and dried)
- Oregano
- Rosemary
- Thyme
- Parsley
- Mint
- Dill
- Cinnamon
- Chilli flakes/cayenne
- Mustard (plain, check for no garlic/onion)
- Lemongrass
- Saffron
- Fenugreek
- Chives (great onion substitute)
- Garlic-infused olive oil (FODMAPs don't transfer into oil — gives garlic flavour without the FODMAPs)
- Tamari or soy sauce (small amounts — check for wheat in soy sauce; tamari is wheat-free)
- Fish sauce
- Apple cider vinegar
- Rice wine vinegar
- Lemon/lime juice

Avoid: Onion powder, garlic powder, stock cubes/powder with onion or garlic (most contain them — check labels), BBQ sauce, tomato sauce/ketchup (usually contains onion/garlic and sugar), most pre-made marinades and sauces

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Drinks

- Water
- Herbal teas: peppermint, ginger, chamomile, rooibos
- Black coffee (1-2 cups max — caffeine can stimulate motility which is good, but too much irritates the gut)
- Green tea
- Bone broth (homemade without onion — use chives and ginger for flavour)
- Lactose-free milk or almond milk (check no inulin/chicory root added — read ingredients)
- Coconut water (small amounts)

Avoid: Beer, regular milk, fruit juice, soft drinks, diet soft drinks (artificial sweeteners), energy drinks, kombucha (fermented — can worsen symptoms during treatment), soy milk made from whole soybeans (soy protein isolate milk is fine)

Sweeteners (if needed)

- Maple syrup (pure, small amounts)
- Rice malt syrup
- Table sugar/raw sugar (small amounts — sucrose is better tolerated than fructose)
- Dark chocolate (70%+ cocoa, small amounts — check no inulin added)
- Stevia

Avoid: Honey, agave, high-fructose corn syrup, sugar alcohols (sorbitol, mannitol, xylitol, erythritol, maltitol), sugar-free anything (check labels)

Quick Meal Ideas

Breakfast: Eggs any style with spinach, tomato, and capsicum cooked in butter or olive oil. Side of SIBO yogurt.

Breakfast 2: Rice porridge (congee) with ginger, poached egg, and chives.

Dinner: Salmon or chicken with white rice, steamed carrots, zucchini, and green beans. Dress with olive oil, lemon juice, salt, and herbs.

Dinner 2: Stir-fry with beef/chicken, capsicum, bok choy, bean sprouts, ginger, chilli, tamari. Serve over rice noodles.

Dinner 3: Lamb chops with roasted pumpkin (small portion), potato, and carrots. Rosemary and olive oil.

Dinner 4: Tuna steak or barramundi with quinoa, roasted eggplant, and a simple salad (rocket, cucumber, tomato, olive oil, lemon).

Snack (if needed between meals — remember meal spacing): Small handful of macadamias or walnuts. Or peanut butter on a rice cake.

The Onion and Garlic Problem

These are in almost everything pre-made. During these 2 months, cook from scratch as much as possible. Use these substitutes:

- **Instead of onion:** Chives, green part of spring onion, asafoetida powder (Indian spice, tiny pinch gives onion-like flavour)
- **Instead of garlic:** Garlic-infused olive oil (Cobram Estate makes one available at Coles/Woolworths), fresh ginger, chives

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About Your Apples

Apples are unfortunately one of the highest FODMAP fruits — they contain excess fructose and sorbitol, both of which SIBO bacteria ferment aggressively. For 2 months, swap to blueberries, strawberries, or kiwi. After treatment, apples can come back.

Die-Off & Histamine

What is Die-Off?

When the SIBO yogurt's bacteriocins kill bacteria, the dying bacteria rupture and release their contents — including LPS (lipopolysaccharide) endotoxin, histamine, and other inflammatory compounds — into the intestinal lumen and bloodstream. This flood of bacterial breakdown products triggers an immune response. The result is a temporary worsening of symptoms before improvement occurs.

Die-off is also called a Herxheimer reaction or "herx."

Die-Off Timeline

- **Days 1-3:** Initial onset. Some people feel nothing, others notice increased symptoms.
- **Days 4-10:** Peak intensity. Worst symptoms typically occur here.
- **Days 10-14:** Gradual easing.
- **Days 14-21:** Most symptoms resolving.
- **Week 4+:** Noticeable improvement over baseline.

Die-off often comes in waves rather than one continuous block, as different bacterial populations get hit at different times. With NAC stripping biofilms alongside the yogurt, die-off can run longer because biofilm disruption continuously exposes new bacteria from under protective shields — multiple smaller die-off events overlapping.

The progression is not linear — good days and bad days within the overall arc. Don't read too much into any single day.

Possible Die-Off Symptoms

Gut symptoms (most common): Increased bloating, gas, cramping, nausea, temporary worsening of diarrhoea or constipation, shifts in stool consistency. Existing SIBO symptoms get amplified temporarily.

Flu-like symptoms: Body aches, chills, low-grade feverish sensation, joint and muscle pain. No actual fever — the immune system is reacting to endotoxin load as if fighting an infection.

Fatigue and brain fog: Sudden tiredness, low energy, mental cloudiness. Bacterial toxins can cross into the brain and affect cognitive function. Can be significant enough to affect work.

Headaches: Very common during detoxification. Can also occur if dietary changes (e.g. sugar removal) are happening simultaneously.

Mood and neurological: Irritability, anxiety, low mood (gut-brain axis). Vivid or disturbing dreams, changes in sleep patterns. Heart palpitations reported by some.

Skin reactions: Rashes, acne breakouts, hives (urticaria), itchy bumps on legs/ankles. The skin is the body's largest elimination organ — when the liver is under heavy detox load, some waste gets pushed out through the skin.

Inflammatory flares: Existing inflammatory responses get temporarily amplified. Sugar reactions may feel more intense because baseline inflammation is higher from die-off load on top of normal triggers.

Red Flags (Stop and See GP)

- Genuine high fever (above 38.5°C) — die-off doesn't cause real fevers
- Severe diarrhoea lasting more than 48 hours
- Blood in stool
- Difficulty breathing
- Severe chest pain
- Symptoms that keep escalating after 2-3 weeks with no improvement

Managing Die-Off Without Slowing Progress

The goal is to speed up toxin clearance, not slow down bacterial killing.

Activated charcoal (1000mg): Binds LPS endotoxin in the gut before it enters the bloodstream. Take 2+ hours away from ALL other supplements and food — charcoal binds everything. Relief typically within 15 minutes. Use as needed, not around the clock.

Water (2.5-3 litres daily): Kidneys are the primary route for clearing circulating endotoxins. More water = faster flushing. Dehydrated die-off is significantly worse than hydrated die-off.

Epsom salt baths: Magnesium sulfate absorbed through skin reduces local inflammation and supports liver sulfation detox pathway. 2 cups in warm bath, soak 20 minutes. No interaction with protocol. Good for itchy legs/ankles specifically.

Walking after meals (10-15 min): Stimulates gut transit. Dead bacteria and toxic contents move through and out faster rather than being reabsorbed.

Sleep (7-8 hours): Liver does heaviest detox processing during sleep (especially 1am-3am). Poor sleep during die-off noticeably extends duration and intensity.

Cold compress/ice on itchy areas: Constricts blood vessels locally, reduces histamine response at skin surface.

Colloidal oatmeal cream or calamine lotion: Anti-itch without systemic effects.

What NOT to do during die-off:

- **Don't take antihistamines** — they'd reduce itchiness but histamine is part of the immune signalling helping clear dead bacteria. Suppressing it slows cleanup.
- **Don't reduce yogurt dose** unless truly unbearable — fewer bacteriocins = slower killing = longer die-off at lower intensity. Shorter intense die-off is better than longer mild one.
- **Don't stop NAC** — it's exposing shielded bacteria. Stopping leaves protected bacteria untouched for later.
- **Don't eat sugar** — feeds surviving bacteria, giving them energy to resist while producing more inflammatory byproducts on top of die-off load.

Davis's specific advice for severe die-off: Reduce yogurt to 2 tablespoons/day. Use activated charcoal 1000mg as needed. If using the three-species yogurt, start with only L. reuteri, then add others over time.

Histamine — How It Works

What Histamine Is

Histamine is an essential signalling molecule. You'd die without it. It's not a waste product or toxin — it's critical for:

- **Stomach acid production:** H2 receptors on stomach parietal cells trigger hydrochloric acid production when histamine binds. Without this, you can't digest protein, absorb minerals, or sterilise incoming food. Adequate stomach acid is a natural SIBO defence.
- **Brain function:** Histamine is a neurotransmitter. Neurons in the hypothalamus use it to regulate the sleep-wake cycle, alertness, attention, and learning. This is why

antihistamines cause drowsiness — they block brain histamine.

- **Immune defence:** When a genuine pathogen enters the body, histamine is a first responder. It dilates blood vessels so immune cells arrive faster, increases vascular permeability so immune cells can leave the bloodstream into infected tissue, and signals other immune cells to activate.
- **Gut motility:** At normal levels, histamine helps regulate intestinal smooth muscle contractions.
- **Blood pressure regulation:** Involved in moment-to-moment vascular tone adjustments.
- **Wound healing:** Increases blood flow to damaged tissue and recruits repair cells.

The problem is never histamine itself — it's too much of it in the wrong places. Like water in a bathtub: the tap is production, the drain is breakdown. Normally the water level is comfortable. SIBO turns the tap to full blast while partially blocking the drain.

Where the Excess Histamine Comes From in SIBO

Source 1 — Bacteria produce it directly: Some SIBO bacteria (E. coli, Klebsiella, certain Lactobacillus strains) contain histidine decarboxylase, an enzyme that converts the amino acid histidine from food into histamine inside the small intestine. More bacteria = more histamine.

Source 2 — Die-off releases stored histamine: When bacteriocins rupture bacterial cell walls, bacteria dump their contents — including stored histamine — all at once. Instead of a steady trickle, you get bursts as bacterial populations are killed in waves.

The DAO Bottleneck

DAO (diamine oxidase) is the enzyme your body produces to break down histamine. It's primarily produced by enterocyte cells lining the small intestinal villi. Under normal conditions, DAO intercepts histamine in the gut before it crosses the intestinal wall into the bloodstream.

SIBO creates a vicious cycle: bacteria colonizing the small intestine produce histamine directly, increasing the histamine load that overwhelms even normal DAO activity. Simultaneously, bacterial inflammation disrupts the enterocyte villi that produce DAO. This dual burden is why SIBO is one of the most common underlying causes of histamine intolerance.

During die-off, histamine spikes further while DAO capacity is still depleted from months of SIBO damage. Unprocessed histamine crosses the intestinal wall into the bloodstream.

Leaky gut worsens this — gaps in the intestinal lining allow histamine to bypass the DAO barrier entirely. B. subtilis HU58 in the yogurt works on repairing those gaps (upregulating ZO-1, occludin, claudin-1), but repair takes time.

How Histamine Causes Skin Reactions

Once histamine enters the bloodstream, it circulates throughout the body. Mast cells (a type of white blood cell storing histamine) are found in connective tissue throughout the body, especially near skin, blood vessels, nerves, lungs, and intestines — up to 7,000 cells per cubic millimetre of skin.

Your body has four histamine receptor types (H1-H4). When circulating histamine binds to these:

- **In skin:** Redness, swelling, itching (hives/rashes)
- **In nose:** Blood vessel swelling, fluid leaking → stuffy/runny nose, sneezing
- **In lungs:** Airway tightening
- **In gut:** Cramping, diarrhoea
- **In brain:** Cognitive effects

Why Bumps (Not Just Flat Rash)

Histamine binds to H1 receptors on blood vessel wall cells and signals them to physically separate, creating gaps. Blood plasma (liquid containing water, proteins, immune cells) pours through these gaps into the dermis (tissue layer under skin). This leaked fluid has nowhere to go — it's trapped between the blood vessel and skin surface. The pooled fluid pushes skin upward, creating a raised bump. Each bump is a localised pocket of oedema.

Why Legs and Ankles Specifically

Gravity. Blood flow in lower legs works against gravity to return to the heart. Venous pressure in ankles is the highest in the body when standing or sitting — blood vessel walls are already under more mechanical stress. When histamine tells those vessel cells to separate, they open wider and leak more fluid than vessels with lower venous pressure. Lower legs also have abundant mast cell populations that degranulate when circulating histamine arrives, creating a secondary local histamine release that amplifies the reaction.

Why Bumps Are Sore (Not Just Itchy)

The itch is from histamine exciting C-fibre nerve endings. The soreness is a different mechanism — mast cell degranulation releases not just histamine but also prostaglandins, which sensitise pain receptors (nociceptors). Pressing the bump compresses trapped fluid and inflamed tissue against sensitised nerves. A delayed secondary wave of inflammatory cytokines (4-8 hours after initial degranulation) sustains the swelling and soreness.

The Secondary Cascade

Circulating histamine from the gut triggers local skin mast cells to degranulate — dumping their own stored histamine into the tissue. This amplifies the reaction beyond what blood-borne histamine alone would cause. It's a cascade, not a simple dose-response.

Acne During Die-Off

The face has the highest concentration of sebaceous (oil) glands anywhere on the body. Circulating histamine and inflammatory cytokines stimulate these glands to increase sebum production. Excess sebum clogs pores. Clogged pores + localised inflammation + leaked immune cells = acne. The gut-skin axis also plays a role — LPS endotoxin from dying bacteria triggers systemic inflammation affecting skin. People with SIBO have significantly higher rates of acne, rosacea, and eczema. Treating SIBO resolves the skin issues.

The liver processing die-off toxins is relevant too — when under heavy detox load, some waste gets pushed out through the skin (the body's largest elimination organ).

Recovery

DAO production recovers as the small intestinal lining heals. B. subtilis HU58 repairs enterocyte villi (the cells producing DAO). L. reuteri reduces inflammatory cytokines that damage those cells. As SIBO bacteria die and bacterial histamine production drops, AND as the intestinal lining repairs and DAO recovers, histamine load gradually falls below the skin reaction threshold. The skin symptoms are temporary — the messy overlap between "bacteria still producing/releasing histamine" and "gut lining not yet healed enough to produce adequate DAO."

Compatibility Reference

Do NOT Combine

A	B	Reason
SIBO yogurt	Herbal antimicrobials (berberine, oregano, allicin, neem)	Antimicrobials kill the yogurt's beneficial strains indiscriminately
SIBO yogurt	Berberine specifically	Berberine blocks the yogurt's benefits (confirmed by Davis's Inner Circle)
NAC / serrapeptase	Ca, Zn, Fe, Mg supplements	Minerals reinforce biofilm matrix. Avoid within 3 hours. Trace amounts in capsule filler (~20-30mg) are negligible and fine.
MotilPro / 5-HTP	SSRIs / MAO inhibitors	Serotonin syndrome risk
Non-enteric-coated oregano oil	Empty stomach (with reflux)	Worsens reflux — use enteric-coated only
Elemental diet	Antimicrobials	Diet starves bacteria dormant; antimicrobials need active replicating bacteria to work
Activated charcoal	Any supplement or food	Charcoal binds everything indiscriminately. Must be 2+ hours away from all other supplements and food.

Safe Together

A	B	Why
SIBO yogurt	Iberogast + ginger + LDN	Different mechanisms, no conflict. Prokinetics support motility; yogurt kills bacteria via bacteriocins.
SIBO yogurt	NAC + serrapeptase	Biofilm disruptors don't kill bacteria — they strip shields, giving yogurt's bacteriocins better access to exposed SIBO bacteria. Yogurt strains unharmed.

A	B	Why
NAC + serrapeptase	Berberine + allicin	Exposed bacteria getting hit by antimicrobials — this is the intended combo for Phase 3.
Iberogast	LDN + ginger	Three prokinetics with different mechanisms — can be combined for greater effect.
Multiple prokinetics	Each other	Different mechanisms of action. Combining amplifies MMC support.
ACV	All supplements	Supports stomach acid environment. No conflicts.
Activated charcoal	Nothing within 2 hours	Only use for die-off symptom management, well-spaced from everything else.

Phase-by-Phase Compatibility

Phase	Yogurt	Biofilm Disruptors	Herbal Antimicrobials	Prokinetics
Phase 1 (Weeks 1-6)	✅	✅ (from week 2)	✅	✅
Phase 2 (Weeks 7-8)	✅	✅	✅	✅
Phase 3 (Weeks 9-14)	✅	✅	✅	✅
Phase 4 (Week 15+)	✅	✅	✅	✅

Shopping Lists

Phase 1 — Yogurt + Motility + Biofilm Disruptors

SIBO Yogurt Ingredients

Item	Product	Where (AU)	Notes
L. reuteri	BioGaia Gastrus 60 capsules	iHerb, Chemist Warehouse	Strains: DSM 17938 + ATCC PTA 6475. 4 caps per first 400ml batch. One box = 15 first batches.
L. gasseri	Dr. Mercola Biothin Probiotic 30 caps	iHerb	Strain: BNR17. 10B CFU/cap. 1 cap per first batch. One bottle = 30 first batches.
B. subtilis	Microbiome Labs HU58 60 caps	MyGene AU, Amazon AU	Strain: HU58. 1 cap per batch. Buy from authorised retailer — counterfeits exist on Amazon.
Inulin powder	NOW Foods or any brand	iHerb, Amazon AU, health food stores	1 teaspoon per 400ml batch.
Full-fat milk	Any full-cream milk	Supermarket	200ml per strain per batch. Unhomogenised preferred.
Pouring cream	Any pouring cream	Supermarket	200ml per strain per batch. Mix 50/50 with milk.
Milk powder (optional)	Any full-cream milk powder	Supermarket	2-3 tablespoons per 400ml for extra thickness.
Kitchen thermometer	Accurate at 37-82°C range	Kitchen supply store	Check if yogurt maker came with one.

Motility Support

Item	Product	Where (AU)	Notes
Iberogast	50ml or 100ml liquid drops	Chemist Warehouse, any pharmacy	
Ginger capsules	1000mg extract	Mr Vitamins - Lifestream, iHerb - Nutricost	Nutricost 550mg is 4:1 extract (equiv. 2200mg per cap — only need 1/day). Lifestream is 1000mg extract per cap.
LDN 2.5mg	Existing prescription	Current pharmacy	
ACV	Unfiltered with "the mother"	Supermarket (Bragg's or any brand)	

Biofilm Disruptors (Start Week 2)

Item	Product	Where (AU)	Notes
NAC	600mg caps. NOW Foods, Swanson, or Herbs of Gold	iHerb, Chemist Warehouse, Amazon AU	~120 caps for 8 weeks at 2/day.
Serrapeptase	120,000 SPU. Doctor's Best or California Gold Nutrition	iHerb, Amazon AU	~120 caps for 8 weeks at 2/day. Trace calcium in filler is negligible.

Die-Off Management

Item	Product	Where (AU)	Notes
Activated charcoal	1000mg caps	Chemist Warehouse, iHerb	As needed. 2+ hours away from everything else.
Epsom salts	Magnesium sulfate	Supermarket, pharmacy	2 cups per bath for itchy skin relief.

Phase 1 cost estimate: ~$80-120 AUD yogurt setup + ~$60-80 NAC/serrapeptase. ~$10-15/week ongoing (milk, cream, inulin after first batch).

Phase 2 & 3 — Antimicrobials

Only buy when approaching end of Phase 1.

Primary Antimicrobials (Weeks 9-12)

Item	Product	Where (AU)	Notes
Berberine	500mg caps. Thorne, NOW Foods, California Gold Nutrition	iHerb, Amazon AU	~84 caps for 6 weeks at 2/day.
Allicin	450mg caps. Allimax brand (most studied)	iHerb, Vital.ly	~84 caps for 6 weeks at 2/day. Most expensive single item.

Rotation Antimicrobials (Weeks 13-14, if needed)

Item	Product	Where (AU)	Notes
Oregano oil	Emulsified/enteric-coated 200mg. ADP by Biotics Research or NOW Foods	iHerb, Amazon AU	Must be enteric-coated with reflux.
Neem	300mg caps. Organic India or Nature's Way	iHerb - Nature's Way, iHerb - Organic India	

Optional (Methane-Specific)

Item	Product	Where (AU)	Notes
Atrantil	Quebracho + horse chestnut + peppermint	Natural Health Medicine, Enhanced Vitality	~$40-50/box. Only if methane-dominant.

Phase 2 & 3 cost estimate: ~$150-250 AUD depending on brands. Allimax (allicin) is typically the most expensive.

Fasting & SIBO

How Fasting Works on SIBO

Two mechanisms work simultaneously when you stop eating:

1. **Starving bacteria:** SIBO bacteria feed on carbohydrates and nutrients passing through the small intestine. No food in = nothing to ferment.
2. **Uninterrupted MMC:** The Migrating Motor Complex only activates during fasting, cycling every 90-120 minutes. During a multi-day fast, the MMC runs continuously, sweeping bacteria out of the small intestine into the colon.

Duration Breakdown

1 Day (24 hours) — Symptom Relief, Not Treatment

Most SIBO patients feel significantly better when they skip meals because food feeds the overgrown bacteria. A 24-hour fast gives the MMC roughly 20+ uninterrupted cycles. You'll feel less bloated, less reflux, less gas. But the bacterial colony is too established to be meaningfully reduced in one day. Bacteria go dormant, not dead. As soon as you eat, they're back within hours. This is a temporary pause, not a reset.

2-3 Days — Meaningful But Incomplete

A 2014 study found 72-hour fasts triggered beneficial turnover of old immune cells. 30-40+ uninterrupted MMC cycles physically clearing bacteria. Bacteria running low on stored energy. Autophagy kicks in meaningfully (24-48 hours), recycling remnants of dead bacteria. Noticeable symptom reduction and possibly measurable bacterial load reduction. But 3 days is probably not long enough for full eradication, especially with biofilm-protected bacteria.

5 Days — Real Die-Off Territory

Significant bacterial die-off should be occurring. However, bacteria can enter dormancy states when starved — hibernating rather than dying. Methane-producing archaea are particularly resilient because they survive on hydrogen gas produced by other bacteria, not just dietary carbohydrates. Meaningful improvement likely, but probably not full eradication.

7 Days — Extended Fasting

One person doing 7+ days reported excruciating die-off pain by day 8, suggesting significant bacterial death. But they also noted that bacteria still alive after 8 days would repopulate within a week — selecting for the most resilient strains. Within days of breaking the fast, SIBO distension returned. They concluded that fixing the root cause (motility) was necessary regardless.

14+ Days — Comparable to Elemental Diet

Many practitioners believe 14 days is enough to kill a SIBO infection. Elemental diet data supports this: 80% breath test normalisation at 14 days, 85% at 21 days. A water fast would theoretically be more aggressive than an elemental diet (truly zero nutrition reaching the small intestine). The only published case of complete SIBO resolution through water fasting used a 28-day fast under medical supervision.

Why Fasting Alone Isn't Sufficient

Fasting is a less controlled, more brutal version of the elemental diet. The elemental diet feeds you while starving bacteria. A water fast starves everything — including you.

Problems:

- Kills good bacteria too, depleting the entire microbiome
- Doesn't address underlying motility dysfunction — SIBO comes back if MMC isn't fixed
- Extended fasting while doing physical work is a safety risk (dizziness, brain fog on ladders)
- Refeeding after a fast must be carefully managed or you re-feed SIBO bacteria immediately
- Selects for the most resilient bacterial strains that survive the fast

Until the root cause (gut motility) is fixed, SIBO will return regardless of how thorough the fast.

Recommended Approach

Don't use multi-day fasting as a standalone treatment.

Weekly 24-hour fast: Skip both meals one day per week (e.g. Sunday dinner to Monday dinner). The MMC gets 24+ hours of uninterrupted sweeping on top of yogurt and prokinetics. Sustainable, safe for work, doesn't nuke good bacteria. Take all supplements except yogurt as normal on fast days.

3-day fast (optional): Over a long weekend when not working. Best used after the yogurt phase (after week 6) as a kick-start before herbal antimicrobials. Sweet spot for benefit-to-risk ratio. Don't rely on it as a primary treatment.

Prescription Options

Prescription Prokinetics for GP Discussion

If natural prokinetics + herbal treatment doesn't resolve SIBO, these are worth discussing with your GP.

Low-Dose Erythromycin (50mg at bedtime)

- **What it does:** Motilin receptor agonist — motilin is the hormone that directly triggers the MMC. At 50mg, this is purely a motility agent, NOT functioning as an antibiotic (antibiotic dose is 250-500mg).
- **Dose:** 50mg at bedtime. May need compounding pharmacy to reach this dose — standard tablets are typically 250mg+.
- **Duration:** Long-term maintenance, taken ongoing after active SIBO treatment.
- **Effectiveness:** One of the most potent prokinetics available. Commonly prescribed by SIBO specialists (Dr. Pimentel at Cedars-Sinai, Dr. Siebecker).
- **Availability:** Your GP should be able to prescribe it. Raise the sub-antibiotic prokinetic use specifically — many GPs won't think of erythromycin as a prokinetic unless you mention it.

Prucalopride (Resolor)

- **What it does:** 5-HT4 receptor agonist — stimulates serotonin receptors in the gut that drive intestinal contractions.
- **Dose:** 0.5-1mg at bedtime. Standard Resolor tablets come in 1mg and 2mg in AU.
- **Duration:** Ongoing maintenance after active SIBO treatment.
- **Effectiveness:** Strong evidence for promoting intestinal contractions. Particularly useful if constipation is part of the picture.
- **Availability:** PBS-listed in Australia. Originally approved for chronic constipation, used off-label for SIBO prevention.

Low Dose Naltrexone (LDN) — Already Taking

- 2.5mg at bedtime (diarrhoea types) or 5mg (constipation types)
- Briefly blocks opioid receptors → endorphin upregulation → anti-inflammatory + motility effects
- Can be combined with other prokinetics (different mechanism)

Both prescription prokinetics are long-term maintenance medications — they don't cure SIBO, they prevent recurrence by keeping the MMC running properly.

Elemental Diet (Reserve Option)

A liquid-only formula of pre-digested nutrients consumed for 2-3 weeks. Nutrients absorb in the upper small intestine before bacteria can feed on them, starving the overgrowth.

Evidence

- 80% breath test normalisation rate in one 14-day course (vs ~50-65% for antibiotics)
- Lowers gas levels by ~70 ppm per round on average
- Effective for all SIBO types (hydrogen, methane, hydrogen sulfide)
- One round of elemental diet can eliminate or greatly reduce the need for multiple rounds of antibiotics

Practical Considerations

- Cannot combine with antibiotics or herbal antimicrobials (diet starves bacteria into dormancy; antimicrobials need active replicating bacteria)
- Must be followed by prokinetics and gradual food reintroduction
- Mentally challenging — no solid food for 2-3 weeks
- Costly (commercial formulas)
- Dr. Siebecker has a homemade recipe, though commercial formulas are more reliable

Side Effects

- Die-off symptoms (same as any SIBO treatment)

- Reduced motility (no food stimulating natural contractions)
- Potential fungal overgrowth (prophylactic anti-fungals sometimes prescribed alongside)

When to Consider

- After herbal antimicrobials have been tried and haven't fully cleared SIBO
- If breath test remains elevated despite completing Phase 1-3
- If symptoms are severe enough to justify the difficulty
- As a first-line treatment for very high breath test results (some practitioners prefer it over antibiotics for severe cases)

Available in Australia

Commercial elemental diet formulas can be sourced through integrative practitioners. Some brands available online. Discuss with your treating practitioner for specific product recommendations and supervision.

health ideas

https://www.youtube.com/watch?v=Cu_RwUeFgCQ

Why H. Pylori Keeps Coming Back (The Biofilm Problem Most Practitioners Miss)

Prep and prime - 14 days

1 - take a biofilm disruptor. (clare labs, standard process, doctors research, abiotics)

Nifuroxizide Antimicrobial protocol

The Goal of this protocol

Kill the bad bacteria, bind to the toxins, and replace with good bacteria.

The Nifuroxizide kills bad bacteria. The anti-fungals kill bad fungus. You need to do **BOTH** at the same time, so one doesn't take up the real estate of the other once one is gone.

IMPORTANT: Keep a low sugar diet so you don't feed the bad bacteria while you are trying to eradicate it.

Procedure

- **Nifuroxizide (anti-microbial)** – 400mg 2x morning and night with food
- **Shizandra** – **(Antifungal)** 2x morning and night with food
- **Undecylenic Acid** – Antifungal morning and night with food (250–1000 mg per day, divided into 2-3 doses)
- **Kolorex** - Herbal plant from NZ