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Hydrogen/Oxygen Therapy – One Part of a Bigger Health Picture

Hydrogen/oxygen inhalation therapy can be a valuable part of any health recovery plan.

It offers powerful antioxidant, anti-inflammatory and cellular support benefits that can help the body to rebalance and repair.

However, for most people, especially those dealing with long-term or serious health conditions, hydrogen/oxygen inhalation will need to be part of a multi-layered approach that provides all the key ingredients required for recovery.

Below we outline some key areas to consider alongside hydrogen/oxygen therapy to help create the best possible foundation for healing.

1. Lifestyle Foundations

The following health fundamentals need to be in place as a foundation for all healing and rebalancing

- **Sleep** – People who are dealing with serious health conditions need to prioritise quality & quantity. We suggest aiming for 7–9 hours in a dark, quiet environment. Try to have a set bed time and getting up time as this can help to restore hormonal balance.
- **Movement** – Gentle, regular movement supports circulation, lymphatic flow, and mood. This may be a daily walk, stretching, yoga or light resistance work. Any exercise undertaken should be appropriate for your health and ability.
- **Diet** – There are many dietary approaches and what works for one person may not work for another. Regardless of your diet strategy, it is always important to emphasise clean, fresh and if possible organic foods. Eliminate as much as possible, processed foods, sugar, alcohol, caffeine and junk foods.
- **Hydration** – It is important to ensure that you are optimally hydrated and that the water you consume is clean. Hydrogen water (made with your machine) can also be part of your daily routine.
- **Circadian Rhythm** – Have meals at set times, get to bed early, get up early, have a set bed time and getting up times. Take a morning walk for at least 10 minutes to get sunlight and movement that will help to reset your internal clock.
- **Sunlight & Fresh Air** – Getting outside, particularly in the morning to expose yourself to sunlight, fresh air and movement will help to regulate many systems in the body

2. Supporting the Body's Detoxification Systems

When the body is healing, it often needs to remove waste products, inflammatory substances and toxins.

When the organs of detoxification are weak or under strain, it can slow progress as well as creating uncomfortable symptoms.

Key organs and strategies include:

- **Liver** – Ensuring adequate animal protein (unless vegetarian/vegan) can be very helpful in providing the liver with important nutrients needed for detoxification. Consider gentle liver-supporting herbs, such as Milk Thistle, if appropriate.
- **Kidneys** – Ensure good hydration and use of healthy salts such as sea salt or Himalayan salt. Gentle herbs such as dandelion can be helpful.
- **Colon** – It is vitally important that the bowel is functioning optimally. Both constipation and loose bowel require attention if they occur. If you have any of these seek help from a knowledgeable health practitioner about what can be done to manage these during your healing journey.

3. Emotional and Mental Wellbeing

Don't underestimate the part that beliefs, childhood programming, trauma and emotions play in the creation of your health issues.

Also, maintaining a positive emotional state during the healing process can often be challenging, particularly when there are low energy states, pain, set backs and terminal diagnosis.

Meditation, breathing exercises and trauma release work can be helpful

Community and connection have also been shown to be important in the healing process.

Support from friends, family and support groups have been shown to have very positive affects on healing.

4. Other Health-Balancing Strategies

Depending on individual needs, other modalities may be helpful alongside hydrogen/oxygen therapy:

There are many health promoting therapies that can work alongside Hydrogen/Oxygen Inhalation

We have found that NIR/Red Light therapy works really well alongside Hydrogen/Oxygen therapy

5. Working With Professionals

For the best outcomes, hydrogen/oxygen therapy should ideally be part of a plan guided by both:

- **Your GP** – To ensure safety, avoid interactions with medications and monitor key health markers.
- **Holistic Health Practitioners** – To provide personalised lifestyle, nutritional and complementary therapy guidance.

6. Putting It All Together

Hydrogen/oxygen therapy may help reduce oxidative stress, support mitochondrial function, and improve overall cellular health—but it works best when combined with:

- Healthy lifestyle
- Support for detoxification organs
- Emotional wellbeing strategies
- Other appropriate health strategies
- Professional medical and holistic guidance

Recovery is rarely a single-step process. Instead, think of it as creating a health ecosystem, where each supportive measure strengthens and amplifies the others.

How long does it take to see the benefits of hydrogen/oxygen inhalation therapy?

The timeline for experiencing benefits from hydrogen/oxygen inhalation therapy can vary widely depending on several key factors, including:

- **The flow rate of the machine** (e.g. 600ml vs 3000ml per minute)
- **The duration of each session**
- **How consistently it is used**
- **How gradually the user builds up to optimal daily usage** (often 2–4 hours per day)

Some people may feel subtle improvements such as mental clarity, relaxation or better sleep within the first few sessions. However, for most people, the more significant and lasting benefits tend to build gradually over time with regular use.

Hydrogen/oxygen therapy works by supporting the body at a cellular and mitochondrial level, reducing oxidative stress, regulating inflammation and restoring cellular communication. These processes don't produce instant results. Instead, they support deep biological shifts that unfold over a period of weeks and months.

In functional and integrative medicine, 90 days (around 3 months) is often cited as the average timeframe needed to achieve meaningful change in cellular and metabolic function. This is consistent with what we see in hydrogen therapy:

- Improvements in **mitochondrial efficiency**
- Reduction in chronic **oxidative stress**
- Upregulation of endogenous **antioxidant systems** (like glutathione, catalase, and SOD)
- Enhanced **cellular repair** and **energy production**

These biological upgrades require time and consistent exposure to therapeutic levels of hydrogen/oxygen.

Hydrogen/oxygen inhalation is best thought of as a foundational support for long-term healing and health maintenance, not a quick fix - it is a powerful tool for restoring health at its core.

Key Points

- Some benefits (e.g. energy, sleep, relaxation) may appear within days or weeks for some users.
- Most people begin to notice clearer improvements after 2–4 weeks of daily use.
- Deeper metabolic and cellular changes typically require around 3 months of consistent use, especially when working toward recovery from chronic conditions.
- Using a higher-output machine and gradually working up to 2-4+ hours of daily inhalation can accelerate and deepen the therapeutic effects.

When to Avoid or Use Caution with Hydrogen/Oxygen Inhalation

Do not use Hydrogen/Oxygen therapy if:

- You are using ozone therapy at the same time (separate by several hours)
- You are in the acute phase of a stroke or brain bleed
- You have active seizures or unstable epilepsy
- You are experiencing severe respiratory distress (such as asthma attack)
- You are pregnant (especially first trimester – precautionary)

Use with caution or professional guidance if:

- You have low blood pressure (hydrogen may slightly lower BP)
- You are undergoing chemotherapy or radiation (avoid on the same day)
- You have a pacemaker or implant
- You are a child or elderly person with complex health needs
- You are on immunosuppressant medication following an organ transplant

Are there any medications that are contraindicated with hydrogen/oxygen inhalation therapy?

Hydrogen/oxygen inhalation therapy is generally safe for most individuals on medications.

While there are no definitive contraindications, it is always recommended to consult with a healthcare professional before starting any new therapy, especially if you are on prescription medications, as it is possible that dosages may need to be adjusted.

Protocol Overview

Hydrogen/Oxygen inhalation is an emerging health technology with rapidly growing interest worldwide.

While scientific research continues to expand, there are currently no universally agreed-upon or officially standardised protocols for its use.

This means that frequency, duration and flow rates are often determined by individual needs, goals and personal tolerance levels.

To help our customers get started, we have created:

- **A standard build-up protocol** – suitable for most users, designed to help the body adapt gradually.
- **A gentler, slower build-up option** – intended for those who may be more sensitive, have chronic health challenges or simply prefer to take a more cautious approach.

Ultimately, how you use your machine is up to you.

Some people choose to make hydrogen/oxygen inhalation part of their **daily** routine, while others prefer **2–3 sessions** per week or occasional use as needed.

The right approach will depend on your personal circumstances, goals and how your body responds.

We encourage you to listen to your body, start gradually, and adjust your use over time. The flexibility of this technology allows you to tailor your routine to suit your individual needs.

Standard Build-Up Protocols

Day	Immortal 3000ml/min	Super Power 1500ml/min	Vitality 1000ml/min
Day 1	10 min	20 min	30 mins
Day 2	20 min	30 min	45 min
Day 3	30 min	45 min	1 hr
Day 4	45 min	1 hr	1.5 hrs
Day 5	1 hr	1.5 hrs	2hrs
Day 6	1.5 hrs	2 hrs	2.5 hrs
Day 7	2 hrs	2.5 hrs	3 hrs
Day 8+	Increase to 2-4 hrs per day	Increase to 3-4+ hrs per day	Increase to 4+ hrs per day

Notes:

- Sessions can be split into morning and evening if preferred
- Look out for symptoms of detoxification
- Maintain good hydration

Why split treatments into morning and evening sessions?

Hydrogen is rapidly used and exhaled by the body, so its anti-inflammatory, antioxidant and signalling effects are strongest during and shortly after each session.

By dividing your daily inhalation time into morning and evening, you extend the period of cellular support across the day.

A morning session can help counter overnight oxidative stress, improve mitochondrial efficiency and promote mental clarity.

An evening session can reduce inflammation from daily activity, support tissue repair and help calm the nervous system for restful sleep.

This split approach can also make the therapy more comfortable for those building up their inhalation time by placing less strain on the body's detoxification systems.

Common detoxification symptoms to look out for

This is not a definitive list

- Headaches
- Diarrhea
- Fatigue
- Nausea
- Stiffness
- Achiness
- Dull ache in lower back
- Loss of appetite
- Disrupted sleep
- Flaring up of existing health symptoms

Symptom Level	Examples	Action
Mild – temporary and tolerable	Slight headache, mild fatigue, light skin breakout, mild digestive change	Continue at current dose or reduce session by 5–10 min. Drink more water and support detox with gentle movement and rest.
Moderate – uncomfortable but manageable	Ongoing headache, noticeable fatigue, increased aches, stronger skin reactions	Reduce session length by half or split into smaller sessions. Increase hydration, support detox organs and hold this reduced level until symptoms ease.
Severe – intense or interfering with daily life	Strong headache, extreme fatigue, dizziness, nausea, breathing difficulty	Stop sessions for 1–2 days, hydrate well, rest and restart at a much lower time. Seek medical advice if symptoms do not improve or are concerning.
Persistent – symptoms lasting more than 1 week without improvement	Any ongoing symptom that doesn't ease after reducing time	Try reducing the time to a lower dose, if necessary pause therapy until symptoms clear

Conditions that may require a gentle approach:

1. **Chronic low energy states** (Chronic Fatigue Syndrome CFS/ME)

- Their **mitochondria** are often under-functioning and pushing too much therapeutic stimulation too quickly (even something gentle like hydrogen) can lead to an **energy crash**.
- These individuals typically have **reduced detoxification capacity**, so even mild improvements in cellular repair and oxidative balance can release toxins or inflammatory metabolites faster than their **liver, kidneys** or **lymphatic** system can eliminate them.
- Autonomic Nervous System dysregulation is common in these individuals (e.g. overactive sympathetic stress responses), which can also affect their tolerance to therapies that influence cellular energy or redox signaling.

2. **Lyme disease and co-infections**

- These individuals often experience **strong Herxheimer** (die-off) reactions when the immune system begins clearing microbial toxins.
- Hydrogen/oxygen therapy can support immune function and detoxification, but needs to be introduced slowly to **prevent flare-ups**.

3. **Multiple Chemical Sensitivity** (MCS)

- The **redox-sensitive systems** in these individuals can be highly reactive. Even mild shifts in oxidative balance can trigger unwanted symptoms.
- These individuals often require **ultra-low doses** and **very short sessions** initially.

4. **Mast Cell Activation Syndrome** (MCAS)

- Though **rare**, hydrogen/oxygen therapy may influence **mast cell** activity indirectly through redox pathways.
- A slow, well-observed introduction is prudent.

5. Chronic Lyme, EBV or stealth infections

- Similar to CFS, these individuals may have dysregulated **immunity** and **mitochondrial** suppression.
- Slow therapeutic build up avoids triggering **inflammatory** or **die-off** reactions.

6. Long COVID / Post-viral fatigue

- **Similar** mitochondrial and detoxification challenges as **CFS**.
- These users often benefit from **alternating day** therapy and **shorter** session times to start.

7. Autoimmune conditions (e.g. lupus, rheumatoid arthritis)

- Hydrogen may help long-term by reducing oxidative stress, but too rapid an introduction may temporarily shift immune activity, leading to flare-ups

8. Severe adrenal exhaustion / HPA axis dysfunction

- These people may respond well to hydrogen over time, but their **threshold** for change is **very low**, and even mild stimulation can temporarily dysregulate their cortisol and energy patterns.

If you are experiencing any of the listed conditions it is highly recommended that hydrogen/oxygen therapy is introduced **slowly** and **carefully**.

We have created the **H2=E General Protocol** to help people achieve this

Hydrogen therapy is gentle by nature, but in sensitive individuals, even small improvements in cellular function can create a temporary but overwhelming burden on the organs of elimination (liver and kidneys).

This can lead to symptoms such as **fatigue**, **headaches**, **brain fog**, **irritability** or feeling “**crashed**” if the body is not able to keep up.

To avoid this, the **H2=E General Protocol** is based on the following principles:

- Starting with small session times of between 10-30 minutes
- Using alternate-day treatments
- Increasing the time slowly whilst monitoring for symptoms of detoxification

Ensuring adequate **hydration**, **sleep**, **movement** and **sunlight** can all be supportive.

Gently supporting the **liver** and **kidneys** with appropriate herbs can be helpful

H2=E have created a **Therapy Tracker**, which allows you to monitor **detoxification symptoms** and their **severity**

Pushing ahead **too quickly** by inhaling large amounts of hydrogen/oxygen daily, can overwhelm the body's **detoxification pathways**, leading to a worsening of symptoms or compromising overall progress.

As a result, individuals with any of the conditions listed above often require a **longer timeline** before noticeable improvements are felt.

In some cases, it may take **several months** or more of gentle, consistent therapy before a clear upward shift in energy and wellbeing becomes apparent.

H2=E General Protocol

This general step-by-step protocol will help you to safely build up the time on your Hydrogen/Oxygen machine

1. Start with Small Doses

Begin gently with a small duration according to your machine's flow rate

- **Immortal:** 10 minutes per session
- **Super Power:** 20 minutes per session
- **Vitality:** 30 minutes per session

2. Recovery

Have at least one day of recovery between sessions.

Some users may require 2-3 days between sessions to allow the body to fully recover

3. Monitor how you feel

Assess how you feel after each session, paying particular attention to whether you are experiencing any symptoms of detoxification

You may find our Session Tracker helpful for this

The main symptoms to look out for are

- Headaches
- Diarrhea
- Fatigue
- Nausea
- Stiffness
- Achiness
- Dull ache in lower back
- Loss of appetite
- Disrupted sleep
- Flaring up of existing health symptoms

4. Gradually Increase Session Times

We suggest performing a block of 7 treatments, with a recovery day between each session.

If you are able to complete this with no detox symptoms, then you can increase the time

- **Immortal:** increase by 10 minutes
- **Super Power:** increase by 20 minutes
- **Vitality:** increase by 30 minutes

If you experienced mild detoxification symptoms, then you would not increase the time. Continue with treatments at the same duration for another 7 sessions - then reassess.

Only increase the time when you are free of any detoxification symptoms.

If you experienced strong or severe detoxification symptoms, then you need to completely stop treatments and allow complete recovery to occur.

This may take anywhere from a couple of days to a couple of weeks.

Then return to treatments at a reduced time duration

5. Increasing the time further

If you are trying to resolve a specific health condition, you may wish to build up the time beyond that recommended for health maintenance.

As long as you are able to complete 7 sessions without any detoxification symptoms, then you can increase the time by the increments indicated above and repeat the process of another 7 sessions.

You can follow this protocol until you reach the following durations

- **Immortal:** 2 hours
- **Super Power:** 4 hours
- **Vitality:** 6 hours

6. Splitting the sessions

As sessions become longer it may be more convenient to break the treatment down into smaller chunks

For example, a 2-hour treatment could become two 1-hour treatments.

It is up to you how the time is divided into smaller units; it might be that a session is broken down into 3 or 4 parts, which when added up give you the full duration.

Some people have theorized that breaking the session up into smaller parts increases the effectiveness of treatments and is also less taxing on the liver and kidneys which are the main organs of detoxification.

7. Important Notes

- It is common for people with the Immortal machine to think that 10 minutes is not going to be enough time to create a positive impact
- 10 minutes on the Immortal provides the same amount of Hydrogen/Oxygen gas to the body as 20 minutes on the Super Power or 30 minutes on the Vitality machines
- Don't ignore our advice about having a recovery day between treatments. It is important to allow the body time to process and recover from each session. A lot of healing occurs in the spaces between treatments.
- We have found that daily treatments over time can create a cumulative burden on the organs of detoxification - liver and kidneys.
- It is common to get stuck at a particular time, if you try to increase, you find yourself feeling unwell and end up returning to the previous time that worked for you. Some people may spend months with sessions that are relatively short and wonder why they can't progress.
- Remember that healing is not measured by how much time you can spend on the machine, it is about listening to your body and finding the correct amount of time that the body can tolerate, not pushing beyond your limits
- The key is to work with the body, not against it!
- We do not want to punish the body with treatments, more is not necessarily better!



H₂=E

Hydrogen Therapy Tracker

EXAMPLE

Date 4 August 2024

Duration of Session 30 minutes

Pre session evaluation

Energy

Sleep Quality

Poor

Good

Excellent

1 2 3 4 5 6 7 8 9 10

1 2 3 4 5 6 7 8 9 10

Detoxification Symptoms



Mild

Moderate

Severe

Headaches



1 2 3 4 5 6 7 8 9 10

Diarrhea



1 2 3 4 5 6 7 8 9 10

Fatigue



1 2 3 4 5 6 7 8 9 10

Nausea



1 2 3 4 5 6 7 8 9 10

Stiffness



1 2 3 4 5 6 7 8 9 10

Achiness



1 2 3 4 5 6 7 8 9 10

Disrupted Sleep



1 2 3 4 5 6 7 8 9 10

Loss of Appetite



1 2 3 4 5 6 7 8 9 10

Flaring up of existing health symptoms



1 2 3 4 5 6 7 8 9 10

Dull ache lower back



1 2 3 4 5 6 7 8 9 10

Notes

I noticed some mild detox symptoms, yet sleep quality has improved, woke up feeling more positive



H₂=E

Hydrogen Therapy Tracker

Date

Duration of Session

Pre session evaluation

Energy

Sleep Quality

Poor

Good

Excellent

1	2	3	4	5	6	7	8	9	1	0
1	2	3	4	5	6	7	8	9	1	0

Detoxification Symptoms



Mild

Moderate

Severe

Headaches

Diarrhea

Fatigue

Nausea

Stiffness

Achiness

Disrupted Sleep

Loss of Appetite

Flaring up of
existing health
symptoms

Dull ache
lower back

1	2	3	4	5	6	7	8	9	1	0
1	2	3	4	5	6	7	8	9	1	0
1	2	3	4	5	6	7	8	9	1	0
1	2	3	4	5	6	7	8	9	1	0
1	2	3	4	5	6	7	8	9	1	0
1	2	3	4	5	6	7	8	9	1	0
1	2	3	4	5	6	7	8	9	1	0
1	2	3	4	5	6	7	8	9	1	0
1	2	3	4	5	6	7	8	9	1	0
1	2	3	4	5	6	7	8	9	1	0

Notes

Hydrogen/Oxygen Inhalation While Sleeping

Hydrogen/oxygen inhalation therapy has been demonstrated to have powerful antioxidant and anti inflammatory effects and many people are wanting to know if they can use this therapy during the night?

The answer is yes, but there are a few considerations that need to be mentioned.

Why Consider Night time Use?

1. Time-Efficient & Convenient

Many of us have busy lifestyles and inhalation of hydrogen/oxygen whilst sleeping can offer a convenient way to add this therapy to your day without having to allocate time away from other activities.

2. Supports the Body's Natural Repair Cycle

During sleep, the body is in repair mode. Hydrogen and oxygen may assist with:

- Mitochondrial efficiency
- Inflammation control
- Detoxification
- Nervous system balance

3. Longer Sessions = Better Results

Hydrogen therapy works cumulatively over time. Sleep-based sessions allow extended exposure, often leading to deeper results, especially for chronic conditions.

Night time Use Isn't for Everyone

While many people will benefit from night time therapy, some individuals should approach with extra caution or avoid overnight use altogether.

Situations Where Overnight Use May Be Contraindicated

- Very sensitive or toxic individuals prone to strong detox symptoms
- Chronic fatigue syndrome or adrenal insufficiency (initially may not tolerate long sessions)
- People with disturbed sleep patterns or insomnia
- Sinus congestion or nasal blockage (nasal cannula may be uncomfortable or ineffective)
- People who mouth breath during sleep
- People who snore

H2=E's Core Recommendations

1. Use a Single-Piece Cannula (Avoid Extensions)

We recommend avoiding cannula extensions wherever possible. Extensions introduce potential leak points, affect gas delivery consistency and increase condensation.

Instead, use a single-piece, medical-grade silicone cannula of appropriate length.

2. Don't Exceed 2.5 Meters in Cannula Length

We advise limiting cannula length to 2.0–2.5 meters max. Longer tubing may:

- Reduce gas delivery efficiency
- Cause the gas pressure to drop
- Raise the chance of tangling or condensation buildup

Safety Guidelines for Overnight Use

Ensure Good Ventilation

Always use the machine in a well-ventilated room.

Hydrogen will always build up in the room where the machine is being used.

So when using the machine for extended periods of time it becomes more important to ensure good ventilation.

Simply having a window open would be adequate, but ensure that curtains are not blocking ventilation

Ensure the room is not overly hot

H2=E machines are designed for long-duration use, but should not be run in overheated or stuffy spaces. Ideally, keep the room cool and well-aired during use.

Machine placement

- Place the machine on a stable bedside table or on the floor
- Keep tubing clear of bedding to avoid tangling
- Use soft cannulas made for long-term comfort (ideally silicone)

Ensure that the cannula has a Water Trap

To prevent condensation issues in the cannula, which can become an issue with very high output machines especially when used for long durations, it is important to ensure that the cannula has a Water Trap - which traps condensation and prevents the user breathing in water droplets which can be uncomfortable.

You Don't Need to Run the Machine All Night

You don't have to inhale hydrogen/oxygen all night to gain benefit.

Our machines allow you to set a treatment time and will switch off automatically.

Depending on your machine, the maximum duration the timer will allow will vary.

- Immortal: **4 hours**
- Super Power: **6 hours**
- Vitality: **8 hours**

Start Gently & Build-up

Just like daytime use, build up your time slowly, especially if you are new to hydrogen/oxygen therapy or have chronic illness.

Before using during the night, ensure that you have used the machine whilst awake and are able to tolerate at least an hour of use before using during the night.

When used during the night you can gradually build-up the time.

We suggest increasing the time in 30 minute increments

Listen to Your Body

Each person's tolerance is different.

Watch for Detox Symptoms:

- Headache
- Fatigue or foginess
- Upset digestion
- Skin eruptions
- Disrupted sleep

These can indicate the body is clearing toxins faster than it can process them.

If this occurs:

- Reduce session length
- Take rest days
- Increase hydration and liver support
- Consider using every other night

Finding your personal "sweet spot" is more important than maximizing usage time.

Summary

Inhalation during sleep can be a convenient way to add hydrogen/oxygen therapy to your day.

It allows for longer sessions, supports natural recovery and works while you are resting.

To get the most from night time use:

- Avoid cannula extensions
- Use a maximum 2.5m single-piece silicone cannula
- Start gently and monitor for symptoms of detoxification
- Listen to your body and adjust as needed
- Ensure the room is well-ventilated and not overheated

H2=E cannulas are medical grade Silicone, they are 2m long and have a water trap. This satisfies all the requirements outlined above.

Using the Water Stone to Make Hydrogen Water

By using the Water Stone attachment with your H₂=E machine, you can infuse drinking water with pure therapeutic hydrogen in just a few minutes.

How Long to Saturate a 250ml Glass

Hydrogen dissolves into water until it reaches its maximum saturation of around **1.6 ppm** or **1.6 mg/L**.

The speed at which this saturation happens depends on your machine's gas output.

- **Immortal**
3000ml/min – 1 minute
- **Super Power**
1500ml/min – 2 minutes
- **Vitality**
1000ml/min – 3 minutes

Once saturation is reached additional time will not increase the hydrogen any further.

Hydrogen Content at Peak Saturation

At maximum saturation, a 250ml glass of hydrogen water contains around 0.4 mg of dissolved hydrogen gas.

Why You Should Drink It Immediately

Hydrogen does not stay dissolved in water for long.

Once your water has reached maximum saturation, the hydrogen begins to escape almost immediately.

We recommend drinking it straight away (within 1–2 minutes)

Tip: Using a narrow glass can slow the loss of gas as there is a smaller surface area for the hydrogen to escape

Why We Recommend Hydrogen Water, Not Hydrogen/Oxygen Combination

We suggest consuming hydrogen drinking water and not a hydrogen/oxygen combination.

Dissolving oxygen at the same time offers no added benefit and can actually reduce the total amount of hydrogen that can dissolve into the water.

This is not the case when using the cannula for inhalation, during inhalation we always recommend the hydrogen/oxygen combination.

How Much to Drink and When

There is no strict upper limit for consuming hydrogen water.

Our recommendation is to have 1-3 glasses per day (250–750ml)

If you were to only have one glass per day, we would suggest having it first thing in the morning.

- It would help to stimulate the gut and wake up the body
- Having hydrogen water on an empty stomach in the morning can help to stimulate a bowel movement
- Hydrogen helps to promote 'friendly' bacteria
- Consuming hydrogen water in the morning can help to clear oxidative stress accumulated during sleep

Benefits of Drinking Hydrogen Water vs. Inhalation

Drinking hydrogen water:

- Delivers hydrogen directly into the digestive tract, where it can interact with gut tissues and the microbiome.
- Absorbs rapidly into the bloodstream via the stomach and small intestine.
- Can be convenient when you don't have time for an inhalation session.

Inhalation therapy:

- Provides a steady, sustained dose of hydrogen over time.
- Can deliver hydrogen directly to the brain and lungs via the blood.

Many customers choose to combine both methods for the widest therapeutic effect.

Everything you need to know about the cannula

How to clean

There are many sterilising solutions that you can use to clean a cannula

- Detergent (washing up liquid) and warm water
- Colloidal silver spray
- Hypochlorous spray
- Vodka/water spray (50% vodka with 50% water)

You could use a medical wipe or hand sanitizer spray, these both tend to have various chemicals in them which we believe are best avoided.

Spray and wipe the nose piece as well as the entire length of the tubing on the outside.

Once sprayed, it is recommended to wipe the cannula down with kitchen towel, which can then be thrown away. This will ensure that you are not wiping down the cannula with something which could be contaminated with germs or dirt.

When to replace them

It is generally suggested to replace your cannula every 3 months

This would be based on using a cannula anywhere from 30 minutes to 3 hours per day on average.

If you are using the cannula more than this we suggest changing it after 2 months.

If you are using the cannula during a cold or flu, then you may want to replace it when you feel better.

It is suggested to wash your hands before using the cannula

The main reason for changing the cannula is for hygiene reasons, not because the cannula becomes broken or defective.

Even if you clean the cannula after every use, there will be the potential for bacteria to develop inside the tubing over time.

If you have a lowered immune system and are at high risk of picking up infection, you may want to replace the cannula every month or perform a more thorough cleaning after each month.

Deeper cleaning

To perform a more thorough cleaning you would soak the cannula in warm water and vinegar for a minute, then allow to completely dry.

10 parts water to 1 part vinegar in a bowl or mug.

200ml of warm water with 20ml of vinegar

Sharing a cannula

It is recommended never to share a cannula, even with close family members, this is for hygiene reasons.

It would be better for each person to have their own cannula

Storage of your cannula

It is ideal to keep the cannula in a place where it can dry out and is exposed to the air, rather than being kept in a sealed container.

Ensure the surface it is sitting on is clean

If you have not used the cannula for a number of days then it is a good idea to re-sterilise it when you perform your next session.

If you haven't used the cannula for a number of months it may be wise to replace it as bacteria may have been developing in the tubing during that time.

How long do they last?

If you were to use a cannula every day until it broke, most cannulas would potentially last for years, the main reason for replacing a cannula is hygiene.

Choosing the Best Cannula for Hydrogen/Oxygen Inhalation

When using a hydrogen/oxygen inhalation machine, the quality and design of your nasal cannula can directly affect comfort, safety and therapeutic outcomes.

Whether you are new to the therapy or upgrading your setup, this guide will help you choose the best cannula

Should You Use a Longer Cannula or an Extension?

If you need extra reach to sit or lie further from your machine, you might consider extending the cannula tubing.

However, we strongly recommend using a single cannula with longer tubing rather than attaching an extension. Here's why:

Benefits of a Longer Cannula

- **Reduced leak risk** – Fewer joints means fewer places for gas to escape.
- **Consistent flow** – One continuous tube maintains optimal flow and pressure.
- **Easier cleaning** – Fewer connectors mean less risk of bacteria buildup.
- **Better comfort** – Extensions can tug at the cannula and cause discomfort.

Downsides of Using an Extension Attachment

- Higher risk of **disconnection** during use
- Potential **back-pressure** from added tubing resistance
- Increased **condensation** risk inside longer tubing runs
- More complex to manage and less **hygienic** over time

Best practice: Rather than using an extension, choose a single-piece cannula with tubing lengths of up to 2m

Although longer cannulas can be used, we suggest limiting to no more than 2m

H2=E cannulas are approximately 2m long

Performance Limitations with Long Tubing

Pressure Drop and Flow Resistance

- Longer tubing increases resistance to gas flow, especially if the internal diameter is small.
- This can reduce the effective flow rate delivered to the user - particularly noticeable with low-output machines (e.g., 600–1500 ml/min).
- For high-output machines (e.g., 3000 ml/min), the drop is usually less noticeable unless tubing exceeds 3 to 4m or is too narrow.

Gas Dilution or Stagnation

- Longer tubing allows more time for hydrogen and oxygen to mix with ambient air if there is any leakage or open ends.
- In still environments, gas might linger in the tubing, creating residual buildup that can pose a minor ignition risk near open flame (rare but possible).

Condensation and Water Blockage

- Water vapor condenses more easily in long tubing, especially if the room is cool.
- This can create water pooling, which blocks or disrupts flow and may introduce bacterial risk if not cleaned properly.
- A water trap becomes increasingly essential with tubing over 2 m.

Guidelines

Machine Flow Rate	Maximum recommended tubing length	Notes
600-1000ml/min	2m	Use wide tubing Avoid extensions
1500ml/min	2 to 3m	Use a water trap Monitor condensation Ensure good ventilation
3000ml/min	3 to 4m	Use a water trap Monitor condensation Ensure good ventilation

What Is the Best Material for a Cannula?

Not all cannulas are created equal, especially when used for hydrogen and oxygen gas therapy, where chemical off-gassing and reactivity are critical concerns.

Recommended Materials

Medical-Grade Silicone

- Non-reactive with hydrogen and oxygen
- Very soft and comfortable
- Biocompatible and hypoallergenic
- Low off-gassing of chemicals - best choice for sensitive users

Thermoplastic Elastomer (TPE)

- Softer and more flexible than standard plastics
- Latex-free, BPA-free
- Lower off-gassing than PVC
- Provides a good balance between safety and comfort

Materials to Use with Caution

DEHP-Free PVC (Polyvinyl Chloride)

- Common and inexpensive
- Must be explicitly labeled “DEHP-free” (a harmful plasticizer often found in standard PVC)
- Acceptable for short-term or general use
- Only use if labeled for medical oxygen therapy and DEHP-free

Materials to Avoid

- **Latex or rubber:** Can degrade with gas exposure and trigger allergic reactions
- **Cheap vinyl or unknown plastics:** Risk of toxic off-gassing and poor gas compatibility

H2=E cannulas are made from **Medical Grade Silicone**

Our recommendations

- Do not use cannula extensions
- We generally suggest not using a cannula longer than approximately 2m
- If your machine is 1000ml/min or stronger ensure the cannula has a water trap
- Use cannulas made from Medical Grade Silicone

H2=E cannulas meet all these recommendations

Can Hydrogen Therapy Be Combined with Other Holistic Treatments?

A Safety & Timing Guide

As hydrogen and hydrogen/oxygen inhalation therapy gains popularity for its powerful antioxidant and anti-inflammatory effects, many people are asking:

“Can I combine hydrogen therapy with other holistic treatments?”

The short answer is: **Yes**, but with awareness and timing.

While hydrogen therapy is extremely safe and versatile, certain other therapies, especially those that create oxidative stress or strong energetic inputs, may require spacing or sequencing for best results.

In this post, we will explore:

- Which therapies should not be combined at the same time as hydrogen
- How to safely position them in your wellness routine
- Why separating certain therapies is important



Hydrogen/Oxygen Inhalation Therapy is a powerful stand alone therapeutic tool.

However, many people are integrating it into a more comprehensive wellness strategy.

Understanding how to do this effectively will provide enhanced health and wellbeing.

Therapies That Should NOT Be Used Simultaneously with Hydrogen Therapy

Hydrogen therapy works by gently reducing oxidative stress, supporting mitochondrial function and balancing redox signaling.

If combined with certain powerful treatments at the same time, you may blunt its effects or create unnecessary biological conflict.

Here is a list of therapies to avoid during hydrogen inhalation, and when they can be used safely:

Therapy	Combine During?	Safe Before?	Safe After?	Recommended Time Gap
Ozone Therapy	No	Yes	Yes	Wait 4-6 hours or use on alternate days
Hyperbaric Oxygen Therapy (HBOT)	No	Yes	Yes	Wait 6 hours or more
Essential Oil Diffusion (Aromatherapy)	No	Yes	Yes	Wait 1-2 hours
PEMF therapy (Pulsed Electromagnetic Field therapy)	No	Yes	Yes	Wait 30-60 minutes
Sauna therapy (Steam / Infrared)	No	Yes	Yes	Wait 2-3 hours
Coffee Enemas	No	Yes	Yes	Wait 4-6 hours
High dose antioxidant IV's (Vitamin C / Glutathione)	No	Yes	Yes	Wait 4-6 hours
Intense Breathwork (such as Wim Hof)	No	Yes	Yes	Wait 1 hour

Spacing these therapies correctly supports your body's natural rhythms and helps avoid energetic overload or therapeutic contradiction.

Therapies That Work Well Alongside Hydrogen

Many holistic approaches can be used safely at the same time you are inhaling hydrogen/oxygen - or be used directly before/after.

These include:

- Red/NIR light therapy (especially before hydrogen to support mitochondria)
- Grounding/Earthing
- Massage, Bowen or Fascia Therapy
- Somatic movement, yoga and meditation
- Breath-focused vagus nerve work
- Low-dose herbal adaptogens or minerals

These tend to complement hydrogen's calming and restorative effects, making them a great pairing in most protocols.

Why Timing Matters

Hydrogen reduces oxidative stress. Ozone, HBOT and detox therapies increase it (intentionally).

Used correctly, these therapies can complement each other, but when used at the same time, they may either:

- Cancel each other out, reducing their effectiveness
- Overwhelm the body, especially if you're sensitive or detoxing

Hydrogen shines when the body is not under acute stress - it helps the nervous system shift into rest, repair and regeneration.

Overview

- Hydrogen therapy is compatible with many holistic treatments, but timing is important
- Avoid using it simultaneously with oxidative or detox-heavy therapies like ozone or HBOT.
- Space out your sessions by at least a few hours and listen to how your body responds.
- When in doubt, consult a qualified holistic practitioner or integrative therapist familiar with hydrogen and its interactions with complimentary treatments.

Unlocking Athletic Recovery and Longevity with Hydrogen/Oxygen Inhalation

Whether you're a competitive sprinter, weekend warrior, or over-50 athlete determined to stay strong and agile, recovery is everything.

No matter how smart your training program is, your gains depend on how well your body repairs, rebuilds, and balances inflammation.

That's where hydrogen/oxygen inhalation therapy can play a transformative role, especially for athletes who value long-term performance, vitality and cellular health.

Why Recovery Is the New Performance Hack

Recovery is no longer just about rest and sleep.

It's about accelerating repair, reducing oxidative stress and protecting your mitochondria - the engines that fuel your movement.

As you age, your recovery window widens. Inflammation lingers longer. Muscle soreness increases. Energy takes longer to bounce back.

Hydrogen/oxygen therapy offers a simple, science-backed strategy to:

- Accelerate muscle recovery
- Reduce post-exercise inflammation
- Support mitochondrial function
- Protect against oxidative stress
- Enhance cognitive clarity and mood

Scientific Foundations: What the Research Says

Hydrogen gas (H₂) has been shown in numerous peer-reviewed studies to exert selective antioxidant effects, neutralising harmful free radicals (like hydroxyl radicals) while leaving helpful reactive species intact.

Here are a few highlights:

- **Reduced Muscle Fatigue and Inflammation**
A 2012 study published in Medical Gas Research found that hydrogen-rich water reduced blood lactate levels and improved exercise-induced decline in muscle function.¹
- **Antioxidant and Anti-inflammatory Effects**
A 2010 study in Free Radical Research showed that hydrogen gas has powerful anti-inflammatory and antioxidant effects, improving outcomes in oxidative stress conditions.²
- **Mitochondrial Protection and Energy**
Hydrogen therapy helps preserve mitochondrial function under stress, which is crucial for endurance and power output.³

Summary of Key Benefits for Athletes

Benefit	Explanation
Faster Recovery	Reduces lactic acid, inflammation and soreness after training
Antioxidant Protection	Selectively neutralises harmful free radicals without disrupting redox balance
Muscle Integrity	Supports cellular repair and reduces damage from high-intensity workouts
Mental Clarity	Improves mood, focus, and recovery from neurological fatigue
Better Sleep	Enhances rest cycles and nervous system recovery
Mitochondrial Resilience	Protects energy systems for sustained performance

Why Older Athletes Benefit Even More

For older athletes, the recovery curve is longer. Inflammation tends to be more chronic. Tissue repair slows down. But hydrogen/oxygen inhalation helps counteract many of these age-related challenges.

1. Protects against cumulative oxidative stress
2. Enhances tissue oxygenation
3. Improves joint comfort and mobility
4. Supports cardiovascular function
5. Aids hormonal balance and mood stability

Hydrogen doesn't just support athletic goals - it reinforces the foundation of health and longevity, allowing athletes to train more consistently and with less risk of breakdown.

Suggested Protocol for Sports Recovery

Here's a simple inhalation protocol for athletes of all ages:

Post-Training Recovery Protocol

- **Frequency:** 4–6 sessions per week
- **Timing:** Ideally within 1 hour of training
- **Duration:** 30–60 minutes
- **Breathing Style:** Relaxed nasal breathing, seated or lying
- **Hydration:** Drink clean water before and after session
- **Optional Add-ons:** Combine with red light therapy or breathwork for enhanced results

Which Flow Rate Is Right for You?

Flow Rate	Best For
600ml/min	Entry-level use, light recovery, general wellness, older or sensitive users
1000ml/min	Moderate athletes, yoga and low-impact training, maintenance-level support
1500ml/min	Competitive amateurs, strength training, consistent physical performance
3000ml/min	High-performance athletes, sprint/power recovery, chronic inflammation support

Tip: Higher flow rates don't necessarily mean "better" for everyone - they simply deliver more hydrogen and oxygen per minute. Choose based on your goals, tolerance and experience.

Final Thoughts: Strong Recovery Builds Strong Athletes

If you want to run faster, lift more, or simply feel younger, your recovery needs to match the intensity of your training. Hydrogen/oxygen therapy offers a unique combination of cellular repair, oxidative stress reduction and nervous system support - giving your body the tools to regenerate, not just rest.

And remember: performance isn't just about muscle. It's about the whole system - lungs, brain, heart, joints, fascia and mitochondria. Which is why supporting your foundational health with hydrogen/oxygen could be the missing link in your competitive strategy.

Let recovery become your competitive edge!

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