

**CTC**

**Oxygen**

**Therapy**

**Information Booklet**



**All you need  
to know...**

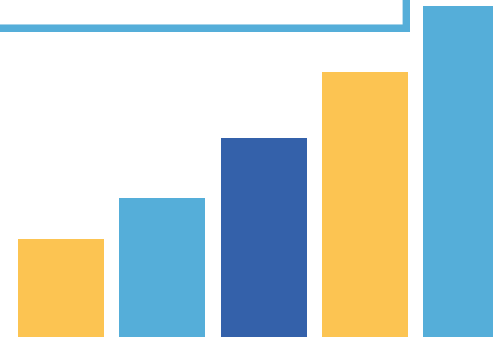


# Introduction

We ask all new clients to read through this booklet. It's important that you familiarise yourself with, and understand Oxygen Therapy, the therapy process and protocol. If you have any questions, please speak with a staff member before starting your protocol. We ask you to pay particular attention to the health and safety procedures.

**Please Note:** The Charcot Therapy Centre does **not** provide medical advice, diagnose health conditions, or prescribe treatments. Access to, and participation in our oxygen therapy service is based on an assessment of the self-declared information you have provided on your client registration form regarding your condition, symptoms and medications. Your treatment protocol is based on existing evidence within the field of hyperbaric medicine. These procedures ensure we have mitigated, where possible, any risks.

We provide Oxygen Therapy which is also referred to as Hyperbaric Oxygen Therapy (HBOT). This involves breathing in 99.99% oxygen in a pressurised environment at no more than 2 atmospheres (ATA).



# What is Oxygen Therapy?

Hyperbaric oxygen therapy involves breathing increased levels of oxygen at higher than normal atmospheric pressure.

**HBOT is not a drug therapy for a specific condition. It isn't even a treatment for disease. It is a way of delivering oxygen, a nutrient that every cell in your body already requires for optimal function, and it delivers this nutrient at levels that no other tool can do.**

There is roughly 21% oxygen available in the air that we breathe – with the remainder being comprised of 78% nitrogen and small amounts of argon, carbon dioxide, neon, helium and hydrogen. When we inhale this air, the oxygen molecules attach to our red blood cells (haemoglobin) and are transported around the body by our blood.

In HBOT, we increase inspired oxygen to almost 100% (99.5%) and increase pressure around the body in our chamber. The increased pressure allows the additional inspired oxygen to saturate the blood plasma; these oxygen molecules are not bound to red blood cells meaning they are free to diffuse into the various body tissues; stimulating, synergising and accelerating healing.

The most essential substance in the repair of any tissue is oxygen. The blood cannot store oxygen in the same way as it can other essential substances such as glucose. Therefore, when tissues are damaged, the blood supply to the damaged tissue is impaired and therefore the supply of oxygen is lessened and the time taken for recovery increases.

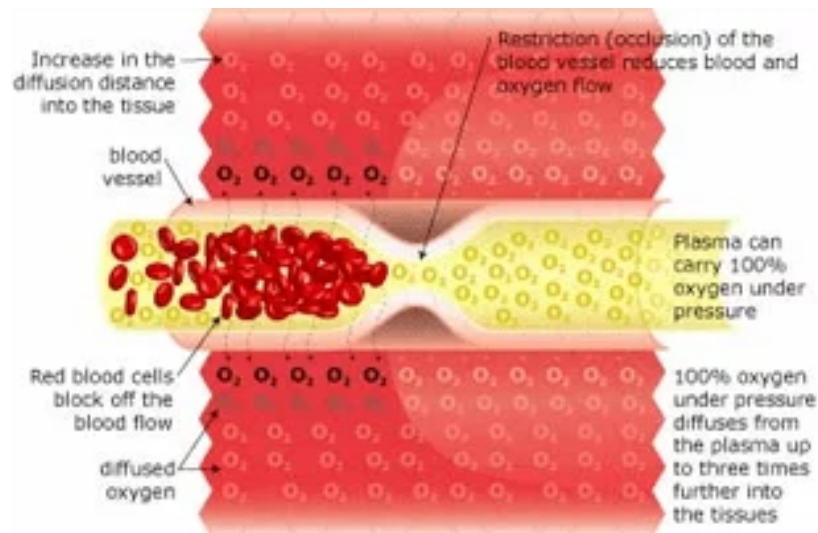
Oxygen is essential for the metabolism of cells, and to maintain the walls of blood vessels to prevent plasma from leaking and which causes inflammation/swelling and bruising which further inhibits the cells ability to repair themselves.

The use of Oxygen Therapy allows for many health benefits, such as cell growth and regeneration, detoxification, immune support, new capillary growth and improved neurological function.

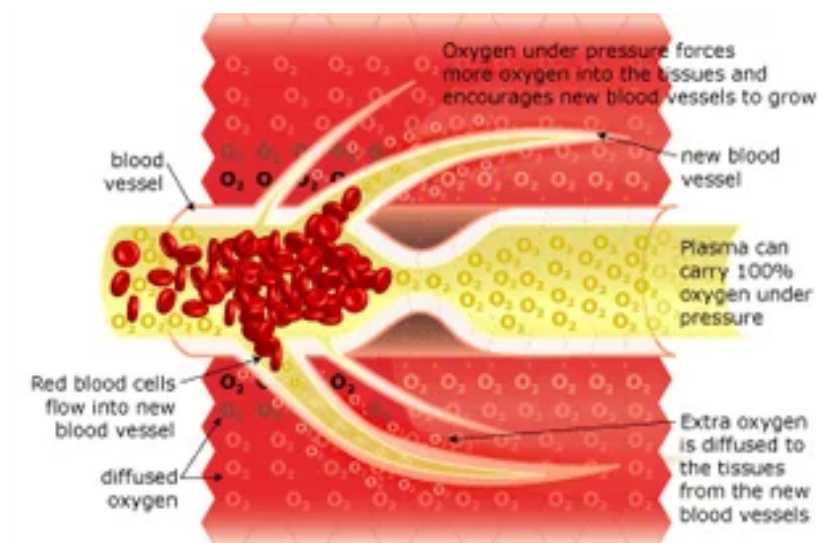


# How it works

The pressure dissolves oxygen in all body cells, tissues and fluids at up to 10x normal concentration



Healing cannot take place without oxygen. Many illnesses and injuries linger at a cellular level, such as circulatory issues, strokes or non-healing wounds, as adequate oxygen cannot reach the damaged area and the body's natural healing ability is unable to function properly.



Oxygen Therapy provides this extra oxygen naturally with minimal side effects.



# What happens with oxygen therapy?

- ✓ Reduction in inflammation and swelling – which is the root cause of pain, discomfort and other symptoms
- ✓ Reversal of hypoxia – which is the result of low oxygen in your tissues which can often occur from injury and disease
- ✓ Elimination of bacteria, fungus and virus – the source of infection
- ✓ Creation of new blood vessels – which facilitates continued healing after the treatment has finished
- ✓ Stimulation of the production of stem cells both from bone marrow and neurologic tissues
- ✓ Improves sleep quality, reduces fatigue and 'brain fog'

## How quickly will it work?

We can see positive effects from HBOT almost immediately. The anti-inflammatory properties of HBOT start to work from the moment the chamber door closes and the pressure starts to rise making it ideal for recovery from acute injury and illness.

However, when we apply HBOT in repeated succession we start to see a long-term, epigenetic response. This is where the oxygen starts to regulate pathways and as a result we see an expression (or increase) or suppression (reduction) of genes in the DNA. It is in this epigenetic exposure that we see the down regulation of gene pathways responsible for inflammation. With inflammation being a common feature of many chronic health conditions and diseases; this is a key area to support with symptom management and relief.

As with any therapy the effects of oxygen therapy is different for everyone.

# Conditions



## HBOT

## May Help

## Symptoms

Scientific research and clinical practice have proven oxygen therapy to be safe and effective treatment for a wide range of conditions. Research is ongoing, and we update our practice on a regular basis to reflect new research findings. Conditions treated include (**but not exclusively**):

- MS
- ME/CFS
- Skin Grafts
- Migraine
- Stroke
- Chronic Regional Pain
- Osteomyelitis
- Post Cancer Radiotherapy
- Long Covid
- Fibromyalgia
- Crush Injuries
- Cerebral Palsy
- Cluster headaches
- Traumatic Brain Injury
- Diabetic Ulcers
- Wound Healing
- Lyme Disease
- Sensorineural Hearing Loss
- Crohn's disease
- Decreased immune function
- Wound healing
- Radionecrosis
- Sports injuries/recovery

## HBOT

## Excluded

## (Inside Chamber Only)

Hyperbaric Oxygen therapy is very safe, and we check with our medical advisors, but in general, you should **NOT** receive this treatment if you:

- Have a pacemaker
- Are pregnant
- Have a collapsed lung, or certain lung conditions
- Take certain chemotherapy drugs
- Take the drug disulfiram (Antabuse)
- Use the topical cream sulfamylon
- Have heart failure; oxygen therapy can make symptoms worse
- Have a cold or a fever, this could increase the risk of ear pain.
- Are Fasting
- Weight loss injections
- Are claustrophobic
- Have a history of epilepsy or seizures
- Have a history of panic attacks
- Have a history of inner ear problems/sinus problems
- GTN Spray / Asthma Inhaler

# Oxygen Therapy

## Protocols



Oxygen Therapy is administered according to oxygen therapy treatment protocols which have been established for different medical conditions and/or symptoms and are approved and recognised within the field of hyperbaric medicine.

A treatment protocol follows a specific ATA pressure level with a specific number of consecutive sessions over a defined period. This can vary between a total of 15 and 40 sessions, and can involve an ideal of a minimum 3 sessions per week, up to a maximum of 5 sessions per week over a 3 to 5 week period.

We provide three pressures: Ambient (outside), 1.5ATA (16.5ft). and 1.75ATA (24ft). We can provide 2ATA (33ft) by specific request not during the regular session slots.

The benefits of oxygen therapy work over time, therefore, it is important to maintain your protocol. This will help you achieve oxygen saturation or oxygenation, thus maximizing the benefits and outcomes. Sometimes symptoms may appear to intensify mid-protocol, but this will lessen and improve as you progress.



At the Charcot **ALL** oxygen therapy protocols start with an ambient session. This is to allow questions about mask placement and ensure any anxieties on starting therapy are rectified before entering the hyperbaric chamber environment.

After your initial protocol, weekly top-ups may be required to help you maintain the benefits and help you manage your symptoms/condition in the longer-term. This is completely person specific.

You may be asked to complete a pre and post protocol evaluation. These forms are important as they help you and us to monitor your progress.

# Risks explained



As with any therapy there are risks, however hyperbaric chambers like ours have an outstanding safety record. So much so, they were deregulated as an Act of Parliament in 2008. There are potential risks with Oxygen Therapy however these are EXTREMELY rare and we take great care to minimise any risk. Under proper supervision, as is always provided by trained operators at the Charcot Therapy Centre, the risks of oxygen therapy are very minimal. The most common side effect is ear pain and users are monitored closely for this

## **Optic Barotrauma(pain in the ears/sinuses):**

Some users may experience pain in their ears or sinuses. If they are unable to equalize their ears or sinuses, please inform the Operators immediately and the pressurisation will be slowed or halted and suitable remedies will be applied.

## **Serous Otitis:**

Fluid in the ears sometimes accumulates as a result of breathing high concentrations of oxygen. It may occasionally feel like 'having a pillow over the ear'. This disappears soon after the treatment ceases and can often be eased with decongestants.

## **Visual Changes:**

After 20 or more sessions, especially for those over 40 years of age, some users may experience a change in their vision. This is usually temporary and in the majority of cases vision returns to its pre therapy level about 6 weeks after the cessation of therapy. It is not advisable to get a new prescription for glasses or contact lenses until at least 8 weeks after your final oxygen therapy session

## **Cerebral Air Embolism and Pneumothorax:**

Whenever there is a rapid change in ambient pressure, there is the possibility of rupture of the lungs with escape of air into the arteries or into the chest cavity outside the lungs. This can only occur if the normal passage of air out of the lungs is blocked during decompression. The rate of decompression in our oxygen sessions is very slow to avoid this possibility. It is important that you breathe normally during treatment and don't hold your breath.



# Risks explained cont.

## **Numb fingers**

You may notice numbness in your fingers. It is temporary and will subside within 8 weeks after your last session.

## **Fatigue**

It is quite normal to feel fatigue during your treatment protocol. This is normal and will resolve over time

## **Pain**

Some people (particularly Arthritis /Fibromyalgia clients) may experience intensification of pain during the initial stages of their protocol. This will resolve over time.

## **Prescribed Medication**

Certain medications DO NOT react well in the oxygen chamber. It is important that you advise staff of all medications, and of any changes to your medication. We will seek advice from our medical advisors.

## **Please Note:**

Slow depressurisations, as is standard practice in our chamber and all our sessions, minimizes the risk of barotrauma or decompression illnesses, as does breathing normally.

If you feel any unusual symptoms such as facial twitching, nausea, ringing of the ears, visual issues or irritability, YOU MUST NOTIFY the Operator immediately. This can be fixed by removing your mask for a few minutes. If it continues, we can remove you from the session.

Should you be suffering with a cold or other condition affecting your sinuses, you are advised for your own comfort, to avoid coming for oxygen therapy until the condition has cleared up. This will also help to ensure that other Centre clients with compromised immune systems are not put at risk

# Oxygen Chamber Safety

## Prohibited

With the use of oxygen there is always an increased risk of fire. We adhere to strict safety regulations to minimize risk. In the event of an emergency remain calm. The chamber operator and staff are trained to deal with any emergencies. Follow the directions given to you by the operator.

- Lighters/Matches
- Makeup, Vaseline, Lip balm and Vicks VapoRub Oil or fragrances
- Microwavable hand or body warmers
- Handbags, bags or keys
- Walking aids
- Electrical items with over 24volt power supply
- Chemical cleaners or solvents
- Electronic car keys
- Loose batteries
- Loose batteries
- Sweets
- Food or drink apart from water (water bottles must have been open prior to entering the chamber)

Hearing aids should be removed before your session. Mobile phone, laptops, iPads etc. can be taken in at your own risk. Please ensure mobile phones are switched to FLIGHT MODE. Do not make or receive calls whilst inside the Chamber.

## For You

Please have something to eat prior to your session, as the chamber environment (pressure/oxygen) can lower your blood sugar levels. Symptoms of low blood sugar may include sweating, shakiness, weakness, hunger, nausea, dizziness, headache, blurred vision, fast heartbeat or anxiety.

Smoking reduces blood supply to fingers and toes, and nicotine may reduce oxygen uptake. It irritates mucus membranes and may make it difficult to equalize the ears which can result in damage to your middle or inner ear. Use Alcohol and recreational drug use may be incompatible with undergoing Oxygen Therapy.

Caffeinated drinks such as coffee, tea, and some carbonated drinks have similar effects to smoking. Please try and avoid these prior to a session.

# Equalisation

During chamber pressurisation, it is normal to experience an automatic "popping" sensation in your ears as a result of the pressure. This may be similar to what is felt in an airplane. For equalisation to be effective you should try:

## **Valsalva:**

Pinch your nose and blow gently through your nostrils until you feel your eardrums move. This method will increase pressure in your throat allowing equalising air into your ears. Do not blow forcefully as you could rupture your eardrum. Slow, frequent, and gentle Valsalva Manoeuvres can be very effective.



## **Swallowing:**

Swallowing with the mouth and nose closed and/or drinking water during pressurisation may assist equalisation. Practice outside the chamber until you easily feel your ears "pop". Don't wait until you feel discomfort or pain before equalising. If difficulty occurs in equalising, ask the operator to stop.



## **Alternative Methods:**

Ear buds can be effective at reducing the discomfort and pain that can sometimes be experienced inside the chamber. Wearing headphones inside the chamber have also shown to help in reducing pressure on the ears.

# Masks

At your first session, you will be fitted with a mask. The masks are simple to use but if you have difficulties or have limited movement in your arms, then we can assist you. Our masks are made from silicone so if you are allergic to this then please advise a staff member prior to your visit.

- Small clips allow you to adjust the strap length
- Hold the mask to your face, pull strap and place it on the top of your head
- Ensure that your chin is sitting within the mask and the top is sealed on your nose
- Adjust your mask until it feels secure and comfortable



# Your First Session



## **Before you go into the chamber: A session will be completed outside of the chamber:**

A staff member will fit your mask and show you how to adjust it (please remember the size for future use)

Wi Fi is available so you can use mobile devices in the oxygen suite and later the chamber (at your own risk)

Items such as handbags must be left with an operator

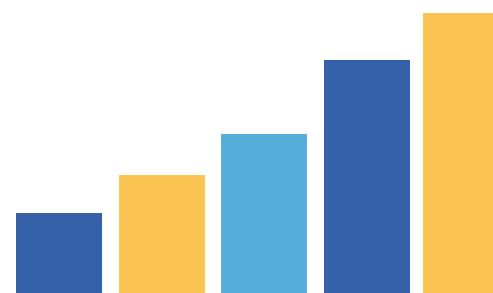
You can take in water bottles if they have been opened and you have had a sip out of the bottle.

## **Inside the Chamber:**

- Take a seat directly under a position number or where the operator has advised you to sit
- Place on your mask, if you need assistance the operator will help you
- You can ask for a stool.
- The operator will introduce you to the other clients in the chamber and go through a safety protocol
- The operator will show you the alarm and intercom, which keeps you in contact during the session

## **The start of the session:**

- Operator will close the door and talk via the intercom
- You will hear air rush in and an unusual, but not unpleasant sensation in your head. It will get warmer.
- If your ears block, take a breath, pinch your nose and breathe out against it. Having a sip of water helps.
- If your ears hurt, or you experience discomfort or pain, you MUST inform the operator and you may have to leave the chamber.



# Your First Session Cont.

## At Pressure:

- Sit with your mask on, and breathe normally
- Push the alarm if you experience any discomfort, nausea, or light headedness
- If the oxygen levels need to be adjusted or the weather is 'hot', the operator will do a 'Flush'. This lets air in and out replacing oxygenated air with air that has a lower oxygen level

## Depressurisation:

- The operator will advise you that the session is finished and the depressurisation has commenced
- It will become cooler, and a mist may form in the chamber. This is just air expanding and cooling down
- Operator will open the door after depressurisation

## Important:

- Our intercom allows constant access to the Chamber Operator
- NEVER hold your breath whilst inside the chamber
- Breathe normally Nasal breathing is best
- If you feel anxious during the session, remove your mask for a minute and breath normally
- If you are in pain, feel unwell or in discomfort during the session YOU MUST PUSH THE ALARM.
- We are able to change the flow of the oxygen outside of the chamber but not inside the chamber. The operators ONLY are to adjust this valve accordingly.

PLEASE DO NOT ATTEND A SESSION IF YOU ARE SUFFERING FROM OR HAVE SEASONAL ALLERGIES A COLD, EAR AND/OR SINUS PROBLEM

# Fire Safety

## Chamber

### If there is a Fire in the Chamber

- Push the alarm - we will activate the water deluge system and switch from oxygen back to regular air.
- Keep your masks on - the air in your masks is smoke free.
- Unblock your ears - we will get you out as soon as possible.
- Keep each other calm

## Centre

### If there is a Fire in the Centre whilst you are in the Chamber

- Stay calm - you are in the safest place in the building.
- Keep your masks on - the oxygen has been switched over to regular air and is the safest thing for you to breathe.
- Stay where you are

The Fire Service needs you to stay in the Chamber until they are ready to escort you. The chamber is slowly being decompressed. The Fire Service will finish depressurisation.

# General Emergency Evacuation Plan

In the event of an emergency, the centre will be evacuated in an orderly fashion. This is in accordance with government legislation and allows us to assist where necessary.

Evacuation is based on mobility (non-disabled, slight mobility issues, users of aids from canes to wheelchairs). We advise that you identify which category you would fit into and note the evacuation plan suited to your needs. Upon hearing the alarm, go to the best suited exit for proximity and accessibility. If you require assistance, let a member of our team know.



## **Non-disabled members:**

Upon hearing the alarm, please leave the premises at the closest exit point in calm and orderly fashion, to not cause panic, and assemble at the designated gathering point for a brief roll call



## **Individuals with Mobility issues:**

Depending on your mobility level, a member of the team will assist in your evacuation to expedite the process and get you to safety as quickly as possible. This might require the use of evacuation aids for efficiency.

# Muster point

Our muster point following evacuation is the corner of the main car park

Please let us know of any concerns, requests, or requirements you might have, and we will do our best to accommodate where it is possible or safe to do so



# Contact Us



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