Hyperbaric oxygen therapy
Daily requirements:

On your first day, please bring:

- Cotton underwear; ladies, your every-day bra is suitable (if a singlet is worn, it must be clearly labelled “100% cotton”)
- A “pop-top” plastic water bottle
- Reading material (not newspaper) / puzzle book, as desired; biro or pencil are both suitable
- Spectacles, if required

Please tell the nurse if you have:

- Hearing aids
- Medic alert / personal alarm button
- Pacemaker (or any other implanted device)
- Or if you use a walking aid – stick, walker, prosthesis, etc

Please take note of the list of prohibited items (last page of this brochure) and prepare accordingly.

When you arrive in the unit:

- Check in at reception.
- You will be allocated a locker key, 100% cotton “scrubs”, socks and a property bag.
- Please change into your scrubs as soon as you can and take a seat in the patient waiting area.
- You will be issued with clean scrubs at the beginning of each week.
- You may leave your scrubs, water bottle and reading material in your locker each day, but please remember to return your key to reception before you leave the unit.
- Your scrubs should not be worn outside the unit.
- If you are unable to attend for any reason (eg transport issues, feeling unwell) please contact the unit as soon as possible (03) 9076 2269.
- You will be notified each day of your next treatment time. Generally, this will be the same time each day – but sometimes it will be necessary for us to change the time, or even cancel the appointment. Please raise any requests for specific treatment times with nursing staff or reception staff.
- Adjustments may need to be made at short notice (due to patient numbers, unit requirements, medical needs of patients, etc). Changes may include: moving to an alternative environment; the type of patient chair; use of footstools and other equipment; etc.
- Eat your normal meals prior to arriving in the unit (this is particularly important if you have diabetes).
- Continue to take your prescribed medications.
- Nursing and medical staff are always on hand to answer your individual questions and help with your needs.

For your safety and other patients’ privacy, please do not wander around the unit without permission. Nursing staff will inform you and guide you into the chamber when it is safe to do so.
Safety in the Hyperbaric Environment

As the hyperbaric chamber is a high oxygen concentration environment, fire safety is essential. We ask for your cooperation in minimising any risk.

The following items are prohibited inside the chamber:
- Mobile phones
- Watches and jewellery
- Hearing aids
- Any electronic or battery operated devices
- Prosthetics
- Newspapers
- Cigarettes, lighters, matches
- Wool, silk, bamboo fibres
- Synthetic fibres (eg polyester, viscose)
- Chemical warming devices (eg hand warmers)
- Make-up, hair products, perfume, aftershave, deodorant, etc (these may be applied when you get changed after your treatment)

Monoplace (in addition to the list of prohibited items above)
- No underwear
- No petroleum-based products (eg lip balm or certain wound dressing products)
- Only spectacles and a pop-top plastic water bottle in the chamber

Multiplace (you MAY take the following items into the chamber)
- Pop-top plastic water bottle
- Book or magazine (including Sudoku, crossword, etc)
- Ballpoint biro or pencil
- Spectacles
- Singlet, tee-shirt, socks (you must be able to prove to staff that they are 100% cotton)

What happens during a hyperbaric treatment?

The air in the chamber will become warmer at the beginning of the treatment as you are pressurised, and cooler towards the end as the pressure is released from the chamber.

You will notice a feeling of fullness in your ears (similar to flying, going over a mountain or travelling in a fast elevator). You will be taught how to “equalise” or “clear” your ears. This may involve swallowing, yawning or performing a “valsalva” manoeuvre. The nurse looking after you will assist and remind you about these techniques.

Please notify nursing staff if you are feeling unwell (especially if you have a cold or hayfever) as this may interfere with your ability to clear your ears.
What is Hyperbaric Oxygen Therapy (HBOT)?

HBOT is the administration of oxygen at a pressure greater than atmospheric pressure. It is based on several laws of physics.

- If a liquid is put under pressure, more gas can be dissolved in it.
- The human body is 60-70% liquid – if you pressurise the body, more gas can be dissolved in it.
- Gas enters the body via the lungs and is then dissolved into the blood and carried around the body by the red blood cells.
- Under pressure, 100% of the red blood cells will carry a full load of oxygen.
- Once this has occurred, oxygen will be dissolved into the liquid part of the blood and carried to all the tissues and cells of the body.

This starts a number of processes within the body:

Stimulation of healing:

- HBOT can accelerate normal healing or stimulate healing to start when it is not occurring.
- In particular, microscopic blood vessels regrow into areas of poor blood supply such as tissue damaged by radiation.
- HBOT also “supports” at-risk tissues until the new blood vessels grow.
- Collagen, muscle and skin cells are also stimulated to actively repair wounds.

Improved infection control:

- HBOT maximizes the killing of bacteria by the body’s own white blood cells. The growth of some bacteria may be restricted in oxygen-rich tissues.
- Enhances antibiotic actions.

Reduction of swelling:

- Each HBOT treatment can actively reduce swelling by constricting blood vessels whilst simultaneously increasing oxygen supply to the tissues.
Conditions treated at The Alfred include:

- Radiation tissue injury
- Osteoradionecrosis (ORN)
- Patients who have had head/neck radiotherapy and require dental clearance / surgery
- Radiation cystitis / proctitis
- Soft tissue damage / surgical wound healing in an irradiated area
- Osteomyelitis
- Wound healing (depending on underlying cause eg diabetes)
- Compromised surgical flaps and wounds
- Decompression illness

Less common conditions:

- Necrotising soft tissue infections (tissue death)
- Cerebral or arterial gas embolism
- Crush injury and compartment syndrome
- Ischaemic parts of the body (compromised blood supply)

ORN is the death of bone secondary to irradiation and radiation tissue injury is a complication of radiotherapy treatment for malignancy or tumour. These conditions occur because radiation invariably destroys normal cells and blood vessels as well as tumour cells. Damage to the small arteries reduces circulation to the area, depriving it of oxygen and other nutrients. The process is gradual and may take months or years for the signs or symptoms to appear. If you require surgery to a radiotherapy affected area, the wound may not heal. HBOT has been proven to improve prognosis and surgical outcomes.

Osteomyelitis is inflammation of a bone due to infection. Osteomyelitis can sometimes develop as a complication of surgery or injury, although infection can also reach the bone tissue through the bloodstream. It can be a complication of all three.

Compartment Syndrome is a condition in which there is swelling and an increase in pressure within a limited space (a compartment – eg within a muscle sheath) that presses on and compresses blood vessels, nerves and / or tendons that run through that compartment. Hence the function of tissue within that compartment is compromised. Compartment syndrome usually involves the lower leg but can also occur in the arm, thigh, shoulder or buttock. Some of the causes of increased pressure in compartment syndrome are: trauma (eg fracture); bandages or casts that are too-tight; bleeding into the compartment; or inflammation.
Hyperbaric Oxygen Therapy
Information for patients, families and friends

Possible side effects of HBOT

- **Ear barotrauma** (bruising of the eardrum). This will occur if you cannot equalise your ears effectively whilst the chamber is pressurising. It is extremely important that you tell the nurse as soon as you notice any pressure build-up or pain in your ears.

- **Oxygen toxicity** (like all medications, oxygen can become toxic if the levels become too high). If this occurs, you might lose consciousness or experience a seizure. The risk is very low but not totally avoidable. There are no lasting effects from such an episode. We will discuss with you the level of risk that applies in your particular situation.

- **Visual changes** (which may occur after several weeks of HBOT). This will be temporary and is usually myopia (shortsightedness). Please inform the nursing or medical staff if you feel your vision has altered. Do not arrange changes to your spectacles or contact lens prescription without discussing it with us first.

- **Anxiety or claustrophobia** (from being inside the chamber or from breathing inside the hood). If you are having trouble tolerating HBOT, please inform nursing or medical staff – there are things we can do to help make your treatments more comfortable.

Smoking and HBOT

Smoking reduces the oxygen levels in your blood and impairs circulation – directly opposing the benefits we are trying to achieve for you.

- Cigarettes contain carbon monoxide (CO) which competes with oxygen to bind to red blood cells.

- This leads to hypoxia (your body is not able to supply adequate amounts of oxygen to the tissues).

- Hypoxia can impair wound healing and increase surgical wound complications and infection rates.

Please be honest about your smoking.

If quitting smoking is not an option for you at this time, please consider the following:

- Ask staff for a referral to the Smoke Free program led by a pharmacist.

- Reducing the number of cigarettes you smoke.

- Refraining from smoking for 2 hours before and 2 hours after HBOT.
Find your way around the Alfred with your phone: use the new PowerNav app:

Step 1 Download PowerNav to your smartphone.
- The app is available for free in the App Store (for Apple) or through Google Play (for Android).
- We recommend being connected to a wifi source for this download.

Step 2 Bluetooth & Location Services must be enabled.
- These settings can be turned on in the Control Panel on Apple devices, and in the Settings menu for Android devices.

Step 3 Launch PowerNav when you arrive in the Alfred.
- The app will detect your location within the hospital and allow you to search for a destination.
- Remember: you must be inside the hospital for your location to be detected.

Step 4 Search for your destination.
- There are four ways you can search for your destination:
  1. Select your destination from the list
  2. Search for the destination
  3. Quick access buttons will direct you to the nearest café, toilet etc.
  4. Scan the QR code on your appointment letter (if you have one)

Step 5 Navigate to your destination.
- The navigation screen shows where you are and draws a line towards your destination.
- Your position is shown as a blue dot with an arrow. The arrow indicates the direction you are travelling.
Hyperbaric Oxygen Therapy
Information for patients, families and friends

Further information:

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www.alfredhealth.org.au

If you would like to provide feedback or request a copy of this information in a different format, contact us at patient.info@alfred.org.au