PATIENT GUIDE TO HYPERBARIC OXYGEN THERAPY

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Welcome to DDRC Healthcare

DDRC Healthcare are based in a purpose built Hyperbaric Medical Centre in the Plymouth Science Park, adjacent to Plymouth’s Derriford Hospital.
**WHAT IS DDRC HEALTHCARE?**

DDRC Healthcare, formerly known as the Diving Diseases Research Centre, is a charity. Originally developed as a treatment centre for divers suffering from “the bends” (Decompression Illness or DCI), funding was received from charitable donations from diving organisations and other interested bodies. As more recognition has been given to the value of Hyperbaric Oxygen Therapy (HBO) in the treatment of other conditions that have nothing to do with diving, the National Health Service (NHS) funds patients we treat, whose conditions have been clinically indicated to benefit from HBO.

We are situated in Plymouth, with a smaller satellite unit at Spire Hospital in Cardiff.

DDRC Healthcare staff comprises trained medical, clinical, chamber and administrative support staff, all of whom will be more than happy to help during your treatment.

**WHAT IS HYPERBARIC OXYGEN THERAPY?**

Hyperbaric Oxygen Therapy (HBO) is a means of providing additional oxygen to body tissues. By intermittently increasing the amount of oxygen in the tissues, the healing process is enhanced. The therapy is painless and has the potential for good results for certain medical conditions. Please see our website for more details on particular conditions that we do and do not treat www.ddrc.org

HBO can be used for a range of medical problems including difficult to heal wounds, diabetic foot ulcers, long term side effects of radiotherapy, problematic skin grafts, and chronic bone infections.
Emergency medical problems such as gas gangrene, carbon monoxide poisoning, gas embolism and of course decompression illness (‘the bends’) may also benefit from HBO.

**HOW DOES HYPERBARIC OXYGEN THERAPY WORK?**

Hyperbaric Oxygen (HBO) therapy is a means of providing additional oxygen to body tissues. 'Hyper' means increased and 'baric' relates to pressure. Oxygen makes up 21% of the air that we breathe. During HBO the patient breathes 100% oxygen intermittently, usually through a hood or mask, whilst inside a pressurised chamber.

Breathing 100% oxygen under pressure causes oxygen to be dissolved into plasma, the liquid part of the blood. By intermittently increasing the amount of oxygen in the tissues, the healing process is enhanced. HBO can encourage new growth of tiny blood vessels called capillaries, increases the ability of the body to fight infection and kill bacteria, and can reduce swelling as well as other effects.

In divers with “the bends”, gas bubbles occur in different parts of the body so causing symptoms. The pressure and oxygen reduces the size of these bubbles and allows gases to reabsorbed so relieving symptoms.
WHAT NEXT?

Once you have been referred to us by your Consultant we will arrange your treatment dates and any accommodation for you. The number of treatments you require varies. For example, some will require 40 consecutive treatments, others will need 20 or 30 pre operatively and then 10 post operatively. This will all be explained before you arrive.

One of the nursing team will telephone you to undertake an initial assessment and to help answer any questions you might have. A date will be arranged for you to attend the centre for assessment and you will be given a copy of our Patient Information DVD - which will also help explain about HBO but also is more of an introduction to DDRC Healthcare.

On arrival at the Centre, you will meet members of staff and have a look around. You will undergo assessment by our Clinical team to ensure that HBO is right for you and identify any special considerations for your treatment.

Relatives are welcome to attend the assessment.

One of the first questions we are often asked is, “Will I get wet?” No, you will not need to bring any swimwear! The term “dive” is used because the pressure is equivalent to being at a certain depth under water. The chamber is dry at all times and does not move.
THE CHAMBERS

The multiplace chamber is like a small room with a large walk-through door. Seats are fitted to the side walls where the patients sit during the therapy.

Stretchers can be wheeled into the chamber if patients, for medical reasons, need to lie down.

A trained chamber attendant accompanies the patients inside the chamber at all times and a doctor is always present within the building during patient HBO treatment. Cameras are placed inside the chamber to allow the doctor, nursing team and the chamber staff to continuously monitor activity during the treatment session and sound recording of each treatment is a legal requirement.
THE THERAPY

The Chamber Operator controls the chamber from Dive Control which is located outside the chamber and is able to maintain constant audio and visual contact with the attendant inside the chamber. When ready, compressed air will be blown into the chamber, temporarily increasing noise levels. At this point, you may feel fullness in your ears much like the feeling when travelling up a mountain or flying in an airplane. You will already have been taught how to ‘clear your ears’ (equalise the pressure change), so as soon as you hear the noise in the chamber, ear clearing should begin (refer to page 11). You may need to repeat ear clearing throughout the time it takes to reach the treatment depth – approximately 10 minutes. If you feel discomfort or pain in your ears, let the attendant know immediately so that we can help you.

As soon as the required pressure is reached, you will be helped to put on a clear hood (left) which supplies 100% oxygen. You will breathe oxygen for up to 90 minutes but will have ‘air breaks’ of approximately 5 minutes when you will be able to have a drink or use facilities.
During the compression stage the chamber will become quite warm. At the end of the therapy the chamber is decompressed and it may become cooler.

Ear defenders are available in the chamber to help reduce noise if you would prefer as some noise may be experienced in the chamber during change of pressure.

Treatments are once daily from Monday to Friday, apart from some emergencies which may require a different schedule. Each routine HBO session lasts approximately 2 hours.

The chamber room showing all 3 multiplace chambers

**THE MONOPLACE CHAMBER**

The monoplace chamber is designed for single person occupancy.
HOW DO I PREPARE FOR A TREATMENT?

- It is important to arrive half an hour before your scheduled treatment and to stay for 20-30 minutes after treatment. For morning treatments, arrive not later than 8.45am, lunchtime dives no later than 11.30am for afternoon treatments no later than 1.45pm.

- Cotton clothing provided at the Centre must be worn inside the chamber. Please get changed on arrival.

- No make up is to be worn inside the chamber; therefore no lipstick, foundation, mascara, nail varnish or hairspray etc.

- No alcohol should be drunk for at least 12 hours prior to treatment.

- No smoking for at least 2 hours before and after your oxygen treatment. **We would encourage anyone and everyone to STOP SMOKING.** Smoking often has contributed to the medical conditions which we treat and a person continuing to smoke gains much less benefit from HBO than someone who does not smoke.

- Eat a meal before treatment, especially if you have diabetes.

- Take your prescribed medication as usual. We can pass medication into the chamber that may be needed - for instance antibiotics or painkillers.

- Please keep cash and valuables you bring to the Centre to a minimum. Please use the lockers provided or ask one of the administration staff for assistance.
• If you are receiving surgery, you will be asked to return for post-operative HBO within 72 hours of your procedure. If this is not possible, please discuss it with the doctor at DDRC Healthcare.

**HOW DO I EQUALISE THE PRESSURE IN MY EARS?**

(‘EAR CLEARING’)

This is a question that many patients are concerned about, but please don’t worry, we will ensure that you are able to do this before you begin your treatment; if not then we will take necessary steps to assist you. As soon as the air flows into the chamber you need to start making your ears ‘pop’. Here are several ways to effectively do this:

• The easiest method of clearing your ears is to try to very gently blow through your nose while holding your nose and lips tightly closed, as if you were trying to blow your nose

• You can try moving your lower jaw from side to side or an in or out motion

• Sometimes just swallowing alone or swallowing some water may work especially with your mouth and nose held closed – water and squash are provided in the chamber if required.

It is a matter of finding what works for you. If you cannot effectively clear or pop your ears by the above methods you will feel pain/discomfort in your ears. Chamber and clinical staff will be able to help you. Please flag up if you are having problems. It is important that you let the attendant know immediately so that they can help you and stop any further increase in pressure in the chamber.
If you are still unable to clear your ears then grommets (pressure equalizing tubes) may be inserted into your ears, these tiny tubes placed in your ear drum will enable equalisation and would be fitted by your local hospital or Derriford Hospital ENT Department after discussion with a doctor.

**ARE THERE ANY SAFETY PRECAUTIONS?**

There are some things that **MUST NOT** be taken or worn inside the chamber: These include:

- **Lighters/matches**
- **Newspapers**
- **Hairspray/oil**
- **Ointments/liniments**
- **Wigs/hairpieces**
- **Petroleum/Vaseline products**
- **Fountain Pens**
- **Heat Pads**
- **Metal-Framed Spectacles**
- **Cigarettes**
- **Perfume/aftershave**
- **Nylon clothing**
- **Make-up/nail varnish**
- **Watches**
- **Hearing aids**
- **Hard Contact lenses**
- **Hand Warmers**
- **Cosmetics**

If you are aware of a patient having any of the above on their person, please tell someone immediately.

The following items **CAN** be taken into the Krug (multiplace) chamber, but **NOT** into the monoplace chamber.

- **A book or magazine**
- **A biro pen**
- **Plastic Frame Spectacles**
In the multiplace chamber you can watch a DVD on one of the screens or listen to music via a headset. In the Monoplace you are able to watch TV or a DVD through the wall of the chamber & listen on speakers behind your head.

ARE THERE ANY SIDE EFFECTS?

Some side effects are possible and the most common are listed below:

- Changes in vision: this can occur as a result of multiple treatments, although it is generally temporary. It may last for a few months after treatment. If necessary we can assist in the cost of temporary glasses. Please discuss this with a member of the nursing team.

FOR YOUR COMFORT

There are tea/coffee making facilities, microwave and fridge you are able to use. Relatives are welcome to come and use the above facilities and are encouraged to help us help you.
WOUND CARE:

Wound care can be provided at DDRC Healthcare as part of your course of HBO treatment and our specialist nursing team work with the community nurses to provide this.

At your initial assessment, before you start HBO, the nurse will remove any dressings and the wound will be assessed.

Plymouth Wound Care is a trading subsidiary of DDRC Healthcare and is able to provide wound care to private patients not undergoing HBO, but it is not currently funded by the NHS. www.plymouthwoundcare.co.uk

INFECTION CONTROL:

All staff undergo regular update training on infection control.

We request that all patients and their relatives use the hand gel at reception before entering and leaving the building and that you wash your hands before leaving the changing rooms and before preparing any food.
PROTECTIVE CLOTHING FOR STAFF:

Clinical staff will wear a disposable plastic apron and gloves when attending your wound or when dealing with any patient who has an infection. These will then be disposed of appropriately according to the infection control guidelines.

If you have any questions regarding the above, please do not hesitate to contact us or discuss this at your initial assessment.

ACCOMMODATION

If you do not live locally, we are able to arrange accommodation for you nearby. This comprises a self-contained single occupancy studio flat with own kitchen and bathroom. The flats are located adjacent to Derriford Hospital, approximately ⅓ mile from DDRC Healthcare. However, there are no communal or entertainment facilities. The accommodation is covered by a hotel TV licence; therefore it is possible to bring a television for the duration of your treatment if you wish. Internet and telephone connection are available at a small cost. The nearest shop is within 1 mile of the centre and a supermarket is within 2 ½ miles.

The cost of your weekday accommodation (Monday to Thursday night inclusive), when undergoing treatment, is included in your overall treatment costs. However, as we are a charity and accommodation is not NHS funded, we are unable to pay for accommodation at the weekend or for family members unless there is a medical requirement. Should you wish to stay over the weekend, you are able to do so at your own cost.
PATIENT EXPERIENCE

At DDRC Healthcare we work hard to provide all of our patients with high quality care. We hope that everyone we treat, and their families and carers, have a positive experience whilst undergoing their treatment with us.

As a patient at DDRC Healthcare you can expect:

- The provision of high-quality care that is safe, effective and focused on patient experience
- To be treated with compassion, dignity and respect at all times
- To be treated equally irrespective of gender, race, disability, age, sexual orientation, religion or belief
- That care is provided in a way that ensures each patient's human rights are respected
- Continuous assessment of, and improvement in, the quality of services you receive, working to currently known best practice

The patient environment:

- To be cared for within a clean, safe and well-managed environment

The staff employed at DDRC Healthcare:

- Have all received appropriate education and training
- All of our members of staff are appropriately experienced
- All patient facing staff have undergone an enhanced CRB check
DECISIONS ABOUT YOUR TREATMENT

- Patients (with their families and carers where appropriate) will be involved in and consulted on all decisions about their care and treatment.
- You will be given information about your proposed treatment in advance, including any possible side effects of treatment.
- You will be given plenty of opportunity to ask questions and discuss the best treatment options for you.

Working in partnership:

- DDRC Healthcare is committed to respecting the wishes of patients with regard to their healthcare. If you have made an Advanced Directive (Living Will) please bring this to the attention of clinical staff at your initial assessment.

CHAPERONES

Patients may request the presence of a chaperone during any consultation, examination or procedure.

In the interests of both patients and clinicians it is the policy of DDRC Healthcare to provide female patients with a chaperone when undergoing an examination or procedure of an intimate nature by a male clinician. Following the examination a separate opportunity can be provided for private conversation between the patient and doctor.

Patients are advised that they may decline the presence of a chaperone but they will be asked to sign a DDRC
Healthcare disclaimer to this effect. Chaperones will either be qualified nurses or other healthcare staff who have received training for this role.

CONFIDENTIALITY

Whilst you are with us you might learn some information about a patient, who may or may not be known to you. Whether you are a friend, family member or stranger to that patient, we ask you to respect their right to confidentiality by not repeating the information to anyone else. If we all treat any information we may learn about others in the way we would like information about ourselves to be treated, we believe that we will have created an appropriate environment for all our patients and visitors.

AND FINALLY…

We look forward to welcoming you to our Centre and the treatment you will be receiving. We hope that this leaflet has answered your questions about our Centre and the treatment you, your relative or friend will be receiving. However please do not hesitate to ask any member of staff any questions that you may have and they will be pleased to help you where they can.

Patients, their friends and relatives are at liberty to read any of DDRC Healthcare’s policies and procedures. If you wish to do so at any time please ask at DDRC Healthcare Reception.

If you have any concerns, please speak to any member of staff.
Complaints

We hope that the situation never arises, but if you do find yourself in the position where you feel you need to make a complaint about anything to do with your treatment and care at DDRC Healthcare, we would like to help and hopefully resolve the situation as quickly as possible.

In the first instance please share your concern with either your doctor, nurse or a chamber team member, who will do their best to help you. If this is inappropriate or fails to get the result you desire, please ask to speak to the Centre Manager, who will speak to you as soon as possible, and make every effort to deal satisfactorily with your complaint. If you are not satisfied please put your complaint in writing to a senior manager, or ask a friend or relative to speak or write on your behalf. Your complaint will be treated in confidence and dealt with under our Complaints Procedure which is available for you to see from the Administration Office.

The Aims and Objectives of DDRC Healthcare

To work within the charity’s Memorandum and Articles and as a provider of health care to comply with the following ideals:

- To provide high quality care for patients referred to the centre for hyperbaric oxygen therapy (HBO) and/or wound care in the clinical areas recommended by the Undersea and Hyperbaric Medical Society

- To undertake research into the effects of altered pressure environments on the human condition; and with ethical approval and in collaboration with NHS and non-NHS
professionals, through Evidence Based research provide HBO therapy for patients with medical conditions that may improve through HBO treatment.

- Provide an environment of education and learning for all patients and staff, students and visitors, in order to enhance each person’s experience and advance the role of HBO therapy.

- As a charity to undertake appropriate fundraising activities to fund further research.

- The charity aims to work in a collaborative fashion with partners and tenants to improve the scientific and medical environment both locally and nationally. To that end they will choose tenants with this in mind.

www.ddrc.org