



## Certificate Course In Hyperbaric Medicine

The IMA AKN Sinha Institute announces the elearning certificate course in Hyperbaric Medicine. This course is applicable to doctors in the practice of hyperbaric Oxygen treatment or desirous of taking up this speciality.

Hyperbaric Medicine is showing an exponential growth in India and need qualified clinicians to lead the growth. This course will develop skills to independently examine and treat patients with hyperbaric oxygen. This unique course would help you start your own hyperbaric center or help work in a center offering hyperbaric oxygen therapy.

The courses are in simple language and is designed in a manner that it provides adequate working knowledge to doctors who work in a hyperbaric treatment centre.

| Eligibility Criteria                    | Course Details  |
|---|---|
| Medical Graduate of Allopathic Medicine | <ul style="list-style-type: none"><li>• Medium of instruction: English</li><li>• There is a total of 23 chapters (units) divided into 4 sections. Students are required to complete the learning course of 40 hours within a period of four months. An assessment will be carried out after each section and after the complete course. A final assessment will be carried out before a final certificate of completion is issued.</li><li>• Contact Program – An optional “Contact Program” at designated centers will follow after Course Completion.</li></ul> |
| Course Fees                             | <ul style="list-style-type: none"><li>• IMA Members: INR 21000</li><li>• Non IMA Members: INR 30000</li><li>• International: USD 750</li><li>• GST and applicable Taxes extra</li></ul>   |

For more details visit the website - [www.learnnheal.com](http://www.learnnheal.com) or [www.imaaknsi.org](http://www.imaaknsi.org)

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## Certificate Course in Hyperbaric Medicine Curriculum

The course offers a pathway for Certified Hyperbaric Registered Nurses (CHRN) and Certified Hyperbaric Technicians (CHT) and Certified Hyperbaric Physician (CHP) certification by the Hyperbaric Society of India (HSI).

| S No.            | Name of the Chapters                                       | Objectives of the Course   |
|------------------|--|--|
| <b>Unit IC-1</b> | <b>BASICS OF HYPERBARIC OXYGEN THERAPY</b>                 |  |
| <b>(a)</b>       | Introduction to Hyperbaric Oxygen Therapy includes History | Understand the basics of the subject.  |
|                  |  | Describe different modes of administration of hyperbaric oxygen therapy.   |
|                  |  | Understand difference between monoplace and multiplace chambers.   |
|                  |  | List oxygen devices that do not deliver HBOT.  |
|                  |  | Know about the historical phases in the development of HBOT.   |
|                  |  | Briefly know about the future prospects of HBOT.   |
| <b>(b)</b>       | Hyperbaric Physics Physiology & Pharmacology               | List the gas laws applicable to hyperbaric environment.  |
|                  |  | Understand the basic theory for the development of high blood oxygen concentrations during hyperbaric oxygen therapy (HBOT). |
|                  |  | Describe physiologic effects of hyperbaric oxygen on hemodynamics and microcirculation.                                      |
|                  |  | Understand the physiological effects of HBOT on microorganisms & host Defence mechanism against infection.                   |
|                  |  | Describe physiologic effects of hyperbaric oxygen on ischemia-reperfusion phenomenon.  |
| <b>(c)</b>       | Hyperbaric Chamber Orientation (Mono & Multi)              | Discuss the type of chambers for HBO therapy   |
|                  |  | Enumerate components of Hyperbaric Oxygen Therapy System   |
|                  |  | Describe each component in detail with their operational role  |
|                  |  | Understand hyperbaric treatment process  |
| <b>Unit IC-2</b> | <b>INDICATIONS FOR HYPERBARIC OXYGEN</b>                   |  |
| <b>(a)</b>       | HBOT Indications (An Introduction)                         | Enumerate the various approved indications of HBOT.  |
|                  |  | Know the definition and list of some off-label indications of HBOT.  |
| <b>(b.1)</b>     | Enhancement of Healing in Selected Problem Wounds          | Understand normal wound healing mechanism.   |
|                  |  | Define non-healing wounds.   |
|                  |  | List the factors affecting healing of wounds.  |

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|              |   | Describe the pathophysiology of a wound.  |
|              |   | Comprehend evaluation of a non-healing wound.   |
|              |   | Evaluate the role of HBOT in non-healing wounds.  |
|              |   | Enumerate the type of wounds benefitting from HBOT.   |
| <b>(b.2)</b> | HBO<br>Approved Indications –<br>Wounds           | Describe the pathophysiology of:-<br>Acute Thermal Burns (ATB)<br>Compromised Grafts and Flaps (CGF)<br>Crush Injuries (CI), Compartment Syndrome, and Acute<br>Traumatic Ischemias<br>Delayed Radiation Injuries (DRI) |
|              |   | List the beneficial effects of HBO in these wounds  |
|              |   | Comprehend the treatment protocol of HBO in the<br>management of these indications  |
| <b>(c)</b>   | HBO Indication Approved -<br>Infections           | Describe the pathophysiology of:-<br>Clostridial myositis/ myonecrosis (Gas Gangrene) (CM)<br>Intracranial Abscess (IA)<br>Necrotizing Soft Tissue Infections (NSTI)<br>Refractory osteomyelitis (RO)                   |
|              |   | Describe the clinical findings of the above infections.   |
|              |   | List the beneficial effects of HBO in these infections.   |
|              |   | Comprehend the treatment protocol of HBO in the<br>management of these indications.   |
| <b>(d)</b>   | HBO Approved Indications :<br>Specific            | Define the pathophysiology of the:<br>Idiopathic Sensorineural Hearing Loss (ISHL)<br>Central Retinal Artery Occlusion (CRAO)<br>Extreme Anemia (EA)  |
|              |   | List the beneficial effects of HBO in these conditions  |
|              |   | Comprehend the treatment protocol of HBO in the<br>management of these indications  |
| <b>(e)</b>   | HBO Approved Indications<br>– Primary Indications | There are three indications where hyperbaric oxygen is<br>the first line of treatment (in difference from others<br>where is an “adjunct”).   |
|              |   | In this section we will understand the role of<br>hyperbaric oxygen in these three conditions “Primary<br>Indications.”   |
|              |   | By the end of the chapter you will be able to Define,<br>Air or Gas Embolism<br>Carbon Monoxide Poisoning<br>Decompression Sickness   |
|              |   | Describe the Pathophysiology, clinical signs and<br>symptoms, treatment protocol of the above<br>indications.   |

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|                  |   | List the beneficial effects of HBOT in these conditions.  |
|                  |   | Comprehend the treatment protocol of HBO in the management of these indications.  |
| <b>Unit IC-3</b> | <b>HOW TO DELIVER HYPERBARIC OXYGEN</b>                       |   |
| <b>(a)</b>       | Hyperbaric Oxygen: The Delivery Process                       | Describe the process of delivery of Hyperbaric Oxygen   |
|                  |   | Describe the key parameters of assessment of patients   |
|                  |   | List the precautions to be taken during delivery  |
| <b>(b)</b>       | Hyperbaric Oxygen Therapy: Contraindications and Side Effects | Describe the contraindications of HBOT  |
|                  |   | Enumerate side effects of HBOT  |
|                  |   | Identify patients with additional risk  |
|                  |   | Understand patients requiring special considerations  |
| <b>(c)</b>       | HBOT Standards of Care & Safety Guidelines                    | Be familiar with the standards of care as applied to Hyperbaric Oxygen Treatment.   |
|                  |   | Understand the safety guidelines to be followed in the department.  |
|                  |   | Take appropriate steps to conduct a safe treatment.   |
| <b>(d)</b>       | Hyperbaric Centre: Emergencies and Management                 | Enumerate emergencies occurring during HBOT<br>Hyperbaric attendant (also called a tender in a diving location) associated<br>Patient related emergencies<br>Equipment related emergencies<br>Emergency situations in surrounding areas |
|                  |   | Describe the actions taken to treat the emergencies   |
|                  |   | List the medical and resuscitative equipment to be present in the hyperbaric center   |
| <b>(e)</b>       | Documentation & Reimbursement                                 | Be familiar with classification of hyperbaric centers.  |
|                  |   | List the records to be maintained in the department.  |
|                  |   | Understand the procedure for reimbursement of treatment cost of hyperbaric oxygen therapy.  |
| <b>(f)</b>       | Managing A Hyperbaric center                                  | Know the types of centers of hyperbaric centers.  |
|                  |   | Understand the team required to operate a hyperbaric center.  |
|                  |   | Familiarize with the duties of different team members   |
|                  |   | Understand the many activities which make a good and efficient department.  |
| <b>(g)</b>       | Infection Control   | Know the guidelines for infection control for both multiplace and monoplace hyperbaric chamber.   |
|                  |   | Understand the purpose and procedure for infection control in a hyperbaric chamber.   |
| <b>(h)</b>       | Wound Assessment & Management                                 | Wound assessment methods  |
|                  |   | < State the principles of wound bed preparation   |
|                  |   | Identify barriers to healing  |

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|     |                         | Principles of wound treatment  |
| (i) | HBOT: Quality Assurance | List the Dimension of Quality in a healthcare organization             |
|     |                         | Understand the difference between Quality Assurance and Accreditations |
|     |                         | Be familiar with the aspect of Quality Assurance in HBOT               |

| Unit IC-4 SPECIAL SECTION |   |   |
|---------------------------|---|---|
| (a)                       | Professional Societies & Certification  | Identify various regulatory and statutory guidelines for hyperbaric operations  |
|                           |   | Understand the benefits of certification  |
|                           |   | Understand the process of certification   |
| (b)                       | Introduction to Dive Medicine (Fitness to Dive, Decompression Sickness & Dive tables) | Describe the importance of diving medicine standards  |
|                           |   | Describe general guidelines and assessment of fitness of divers   |
|                           |   | Describe the diagnosis and treatment of diving illnesses  |
| (c)                       | Job Profiles of Team Member in a Hyperbaric Center                                    | The kind of staff needed by the Hyperbaric Centre.  |
|                           |   | To define the roles of:<br>The Medical Director (The Physicians / Medical Doctors)<br>Nurses<br>Attendants<br>Chamber Operators<br>Technicians<br>Others  |
| (d)                       | Clinical & Technical Practicum  | Describe the Practical Training Components:<br>Hyperbaric Department<br>Hyperbaric Treatment<br>Update of Medical knowledge with relevance to delivery of HBOT<br>Update of Surgical knowledge with relevance to delivery of HBOT |

### Course Coordinators : -

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