



# EBASS News

February 2004, N°2

## Corporate members :

*ACHOBEL Belgium*

## Content

- Editorial
- Prevention of dysbaric injuries
- Practical informations
- Instructions for author's
- 4<sup>th</sup> Fire Fighting Course in the hyperbaric environment

### Editorial

The first issue of EBAss News allowed us to be aware of who is who. In this issue, we go straight to the heart of the matter. Inside you will discover some truths which indicates the amplitude of the path that we have to cover. What did you think ? That it was enough to set up an association, to be part of it and that the most important would be already done ? If actually, those two actions are of prime necessity, the most important has to be done ... **To work.**

**To work** in order to get identical training programs everywhere in Europe.

**To work** in order to get procedures, clear working methods.

**To work** in order to exchange , to easily communicate among staffs belonging to the European hyperbaric centers.

**To work**, in order not to be alone, isolated, obliged to discover the secret of "hot water". **To work** in order to be a member of an association which has to be acknowledged, accepted and part of the European hyperbaric set up.

We have to do more than generate interest, sympathy : we have to position ourselves. EBAss's objective is to improve the level of the medical, technical and administrative performances. In short, everything which adds value, in terms of safety and quality for our patients. Becoming a partner to the doctors is essential in this approach.

To succeed, everyone to its own job, but the recruitment of new members is our mutual responsibility. **Ourselves, as first members are responsible for our future.**

We must ensure a long-lasting development of our association : let's recruit ! Think about para-medical members of staff who are your colleagues (= effective member) but also to doctors and friends in your surroundings who are sympathizing (=associate member). Let's get to work !

Robert Houman  
President

EBAss is an international and a non profit association  
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# Prevention of dysbaric injuries in diving and hyperbaric work.

## 6<sup>th</sup> consensus conference of the ECHM Geneve - 24<sup>th</sup> and 25<sup>th</sup> of October 2003

by Robert HOUMAN

This consensus conference set up by ECHM - EDTC - DAN and SUHMS tried to answer to 5 questions :

1. Is there a consensus about diving aptitudes criteria?
2. Is a periodic reevaluation about diving aptitudes necessary for all the divers ?
3. Is the security management the same for the whole range of diving activities ?
4. Which is the role of the decompression procedures, as for prevention of diving accidents ?
5. Are the hyperbaric works or in the caissons bound by specific security procedures, in order to prevent diving accidents ?

My interest is focused upon the direct implications about decompression accident prevention (ADD) re the accompanying personnel in hyperbaric chamber. During its presentation, Dr K. TETZLAFF draws the public attention to the importance for the employer, as for medical exams, to be protected against being sued by employees. In one of its presentation, Mr JC. LE PECHON reminded us that respondent elements to risks analysis shouldn't be stopped at the use of decompression tables. The prevention of risks works, either at the source or on its consequence, or more often, on both aspects. On another hand, he drew our attention to the importance of procedures, which have to be explicit, and above all, accepted.

We 'll have to wait for Dr J. KOT's report before seeing focused the specific aspects met by our accompanying personnel in hyperbaric environment. He will develop, the management of patients who aren't by their nature, neither diver, or professional actor. At least, Dr TAHER will ask if it's normal not to integrate EBAss in the discussions re the personnel's security. I'll thank him in public.

In fact, it's amazing that the only existing association in Europe for the nursing staffs, operators and technicians, isn't integrated in what is it's main goal: its security ! As for the use of oxygen for the accompanying staff, each speaker seemed to use it. I made them notice that if any oxygen has to be used, it's because a notion of danger exists for ourselves. Consequently, in the tables graphs, there are safety measures which should at least, limit the stays in hyperbaric environments without automatically having to recourse to decompression levels, and/or to oxygen inhalation. Of course these wise precautionary measures were suggested for the regular protocols, excluding ADD or embolisms.

In short, the jury 's recommendations are the following:

*re question 3 :*

any exposure with pressure must be preceded by a risk analysis,  
an emergency plan has to be elaborated,  
a training has to be set up in order to respond to emergency situations,  
the personnel training programs have to be taught, in priority, by experts,  
any incidents have to be collected,

*re question 5 :*

it exists some differences among the person working under pressure and the accompanying member in hyperbaric chamber,  
it is essential to prevent the ADD by oxygen breathing and by an important turnover of the staff,

specifics recommendations for the hyperbaric medicine have to be included in the EDTC standards,

a decompression under oxygen is the best solution. In lieu of, it is recommended to let the accompanying personnel breath oxygen, during the treatment.

Comments:

As a speaker pointed out, it's uncomprehensible not to find in the answers to questions 3 and 5, a trace of association such as EBAss. Nobody represented us when our security was up front. I want to believe that this oversight is due to Murphy and that furthermore, we should be associated with this type of discussion.

Re the recommendations, it's noted that the jury consider, with evidence, that there is a risk, but it's only taken into consideration with an intervention about its consequences (the needing factor for oxygen is here). Little is made about the source of danger, for example a recommendation without about a reduction of the length of stay. The rules, elementary ones, edicted by JC LE PECHON are not in force.

Finally, the jury asks to EDTC to produce a specific recommendation for the hyperbaric hospital personnel. EDTC is an emanation of the professional diving world (off shore...) field that nobody will question. But, what about their experience in our field ?

Conclusions : EBAss is an association developed by ourselves, for ourselves. Being associated to problems, which concerns us, may seems curious, if not, out of place, but it's one of the reason for the existence of EBAss. We'll try to continue our involvements with a permanent and non-stop dialogue, until the recognition of our cause.

EDTC: European Diving Technical Committee (EDTC).

ECHM : European Committee for Hyperbaric Medicine

DAN: Divers Alert Network

SUHMS: Swiss Underwater Hyperbaric Medicine Society

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**Prevention of dysbaric injuries in diving and hyperbaric work.  
6<sup>th</sup> consensus conference of the ECHM - Geneve - 24 & 25 October 2003.  
par Robert HOUMAN**

**Résumé français de l'article**

Cette conférence de consensus organisée par l'ECHM - l'EDTC - DAN et SUHMS a tenté de répondre à cinq questions:

- Existe t'il un consensus sur les critères d'aptitude à la plongée ?
- Est ce qu'une réévaluation périodique de l'aptitude à la plongée est nécessaire pour tous les plongeurs ?
- Est ce que la gestion de la sécurité est la même pour tous les types d'activités de plongées ?
- Quel rôle jouent les procédures de décompression dans la prévention de l'accident de plongée ?
- Est ce que les travaux hyperbares ou dans les caissons sont soumis à des procédures de sécurité spécifiques pour prévenir les accidents de plongées ?

En résumé, les recommandations du jury sont les suivantes:

en ce qui concerne la question 3:

toute exposition en pression doit être précédée par une analyse des risques,

un plan d'urgence doit être élaboré,

un entraînement doit être organisé pour répondre aux situations d'urgence,

les programmes de formation des personnels doivent être assurés en priorités par les experts en la matière,

tous les incidents doivent être collectés

en ce qui concerne la question 5:

- il existe certaines différences entre le travailleur sous pression et l'accompagnant en chambre hyperbare,
- il y a lieu de prévenir l'ADD par la respiration d'oxygène et par une rotation importante du personnel,
- des recommandations spécifiques pour la médecine hyperbare sont à inclure dans les standards EDTC,
- une décompression sous oxygène est la meilleure solution. A défaut, il est bon de laisser respirer de l'oxygène au personnel accompagnant durant le traitement.

#### Commentaires:

Il est peu compréhensible de ne pas retrouver dans les réponses aux questions 3 et 5, trace d'une association telle que EBAss. Personne ne nous représentait, alors qu'il s'agit de notre sécurité ! J'ose espérer que cet oubli est à imputer à Murphy et que nous serons ultérieurement associés à ce type de discussions.

En ce qui concerne les recommandations, il est noté que le jury considère le risque avec évidence mais qu'il le traite uniquement par une intervention sur ses conséquences (une systématique du recours à l'oxygène est présente). Peu est entrepris sur la source du danger (par une recommandation sur une diminution du temps de séjour) ! Les règles, pourtant élémentaires, édictées par JC Le Péchon ne sont pas respectées ! Finalement, le Jury demande à l'EDTC d'émettre une recommandation spécifique pour le personnel hyperbare hospitalier. Pour mémoire, l'EDTC est une émanation du monde de la plongée professionnelle (Off shore,...) domaine que personne ne leur contestera. Mais quid de leur expérience de notre milieu ?

#### Conclusions:

EBAss est une association développée par nous, pour nous. Etre associé à des problèmes qui nous touchent peut sembler curieux, voire futile à certains, mais, c'est une des raisons d'être de EBAss.

Nous veillerons donc à poursuivre nos engagements par un dialogue permanent mais incessant jusqu'à notre prise en compte.

RH

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### **6ª CONFERENCIA DE CONSENSO DEL ECHM (Comité Europeo para la Medicina Hiperbárica) sobre la prevención de los accidentes disbáricos en buceo y trabajo en ambiente hiperbárico Ginebra, 24 y 25 de octubre de 2003**

Organizada conjuntamente por el ECHM, DAN Europa (Red de Alerta en Buceo), EDTC (Comité Europeo de Tecnología del Buceo) y SUHMS (Sociedad Suiza de Medicina Subacuática e Hiperbárica)

por Robert HOUMAN  
Traducción de Oscar MORA

Esta Conferencia de Consenso se proponía responder a 5 preguntas:

1. ¿Existe un consenso sobre los criterios de aptitud para el buceo?
2. ¿Es necesaria una reevaluación periódica del examen de aptitud para todos los buceadores?
3. ¿Se utilizan las mismas medidas de seguridad en todos los tipos de actividades subacuáticas?
4. ¿Están todas las personas que trabajan en ambientes hiperbáricos (cámaras o cajones) protegidas por procedimientos específicos de seguridad para prevenir los accidentes de buceo?

Mi interés se centró en las implicaciones directas de la prevención de los accidentes de descompresión (ADD) en el personal acompañante en cámaras hiperbáricas. A este respecto, es de destacar la pregunta realizada por el **Dr Taher** durante su intervención sobre si es normal no integrar EBAss en las discusiones sobre la seguridad del personal; lo cual le agradecí públicamente. Realmente es sorprendente que la única asociación europea de enfermería, operadores y técnicos hiperbáricos, no esté integrada en la discusión de su objetivo principal: ¡ su seguridad !  
Otras intervenciones a destacar son:

" la importancia para las empresas de exámenes médicos como protección contra las posibles demandas judiciales de los empleados" (**Dr Tetzlaff**)

"los análisis de los riesgos laborales no deben limitarse a la utilización de las tablas de descompresión , sino que la prevención debe ir dirigida tanto a las causas como a las consecuencias"  
(**Mr. JC. Le Pechon**)

En cuanto a la utilización del oxígeno por los acompañantes, todos los intervinientes parecían utilizarlo. Yo hice notar que si se limitasen las estancias en el ambiente hiperbárico no sería necesario recurrir por sistema a las paradas de descompresión o la inhalación de oxígeno.  
En resumen, las recomendaciones del jurado fueron las siguientes:

Con respecto a la pregunta **3**:

Cualquier exposición a un ambiente hiperbárico debe ir precedida de un análisis de riesgos, elaboración de un plan de emergencia, entrenamiento del personal para responder ante situaciones de emergencia.

Con respecto a la pregunta **5**:

Existen algunas diferencias entre los buceadores y trabajadores de cajones y los acompañantes en cámaras hiperbáricas, es esencial prevenir los ADD respirando oxígeno y con una rotación adecuada del staff, deben incluirse en los estándares de la EDTC recomendaciones específicas para medicina hiperbárica, la descompresión con oxígeno es la mejor solución, en su defecto, se recomienda permitir que el personal respire oxígeno durante el tratamiento.

### Comentarios

Es incomprensible no encontrar en las respuestas a las preguntas 3 y 5 ni el menor rastro de una asociación como la EBAss. Quiero pensar que un olvido así se debe a la ley de Murphy y que en lo sucesivo se contará con nosotros para este tipo de discusiones.

En cuanto a las recomendaciones, hay que hacer notar que el jurado considera, con evidencia, que existe un riesgo pero se hace poco en cuanto a las causas del mismo, por ejemplo, una recomendación en cuanto a la reducción de las estancias en cámara.

Finalmente, en cuanto a la recomendación del jurado a la EDTC sobre la elaboración de estándares para el personal hospitalario, hay que hacer notar que la EDTC es una asociación emanada del mundo del buceo profesional y cabe preguntarse cual es su experiencia en nuestro campo.

### Conclusiones

La EBAss es una asociación creada por y para nosotros, con el fin de solucionar los problemas, dudas, etc... que nos surgen; hasta que consigamos que, después de una actuación y diálogo continuo, se nos reconozca.

El resumen de la totalidad de la 6ª Conferencia de la ECHM de Ginebra, se encuentra en la siguiente página web: [www.geneva-divemed-days.ch/bilder/recommended.pdf](http://www.geneva-divemed-days.ch/bilder/recommended.pdf)

### Anexo por Oscar MORA

La Sociedad Española de Medicina Subacuática e Hiperbárica ( SEMSUBHIP ) se está planteando las siguientes preguntas con el fin de elaborar un Manual de Procedimientos de Seguridad en la actuación del personal de las cámaras hiperbáricas, preguntas que a su vez no se plantearon en la 6ª Conferencia de la ECHM de Ginebra:

- 1ª ¿Deben encontrarse los pacientes acompañados **siempre** por un sanitario en el interior de la Cámara?
- 2ª ¿Respetamos la ley que prohíbe la permanencia de un trabajador durante más de 3 horas diarias en un medio hiperbárico a más de 2 ATA?
- 3ª ¿Deben realizar los trabajadores la descompresión con O<sub>2</sub>, y qué método deben seguir?
- 4ª ¿Tienen los trabajadores una llave de paso que permita cortar la compresión cuando cuando hay riesgo de barotrauma para ellos ó para los enfermos?

La idea es llegar a un consenso general a través de la SEMSUBHIP para elaborar el anteriormente citado Manual.

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### **Vorbeugen von Barotraumen beim Tauchen und hyperbaren Arbeitsbedingungen.**

**6 Konsensus Konferenz der ECHM**

**25 und 25 Oktober 2003 in Genf**

**Bericht von Robert Houman**

**übersetzung von Daniel WINTERSDORF**

Diese Konsensus Konferenz wurde organisiert von ECHM, EDTC, DAN und SUHMS und sollte auf die 5 Fragen Antworten geben, wobei die fünfte unser Gebiet, die hyperbare Medizin betraf.

- Gibt es spezifische Sicherheits-Prozeduren um Unfälle bei Arbeiter und hyperbaren Bedingungen zu verhindern.

Grosses Interesse galt natürlich der Vorbeugung von Dekompressionsunfällen in Überdruckkammern.

Dr. J. Kot sprach über die spezifischen Aspekte der Begleiter in hyperbaren Therapiekammern. Dr. Taher fragte erstaunt warum, bei Diskussionen über die Sicherheit des Personals die EBAss nicht mit einbezogen wurde.

Alle Redner bestätigten den Gebrauch der Sauerstoffatmung beim Begleit-personal, folglich muss ein Risiko für das Personal bestehen.

Am Ende kam die Jury zu folgendem Konsensus:

Frage 5: es gibt Unterschiede zwischen Arbeitern unter hyperbaren Bedingungen und den Begleitern in hyperbaren Kammern.

Es ist unerlässlich Dekompression Unfälle durch Sauerstoffatmung und Rotation dieser Mitarbeiter zu verhindern.

Spezifische Vorschläge für die hyperbare Medizin müssen in die EDTC Standards eingearbeitet werden. Eine Dekompression mit Sauerstoff ist besser als Sauerstoffatmen während der ganzen Therapiesitzung.

Kommentar: Einige Redner fanden es komisch dass die EBAss nicht zu den Problemen 3 und 5 befragt wurde. Die Jury beauftragte die EDTC Standards für die hyperbare Medizin zu schaffen. Die EDTC ist eine sicherlich kompetente Gruppe, wenn es um das professionelle Tauchen geht, wo aber ist ihre Erfahrung in der hyperbaren Medizin?

Zusammenfassend muss gesagt werden dass die EBAss sich für das Personal in Hyperbaren Therapiekammern einsetzt und dies solange tut bis wir Gehör finden und unsere Mitarbeit gefragt wird.

**Prevenzione delle malattie da decompressione  
nel lavoro subacqueo ed iperbarico.  
6° Conferenza Generale dell'ECHM  
Ginevra 24/25 Ottobre 2003**

**Sintesi della Relazione di Robert Houman**

Durante questa Conferenza si sono affrontati i temi della prevenzione degli incidenti da decompressione riguardanti il personale che lavora in ambiente subacqueo ed iperbarico. Il Dr. K TEZLAFF ha suggerito ai Datori di lavoro di prevedere visite mediche di idoneità per il personale in questione al fine di evitare di essere chiamati in giudizio dai dipendenti; Il Signor J. K. LE PECHON ha affermato che le tabelle di decompressione sono insufficienti ad evitare i rischi connessi all'attività iperbarica e che servono procedure chiare ed accettate; Il Dott. TAHLER ha chiesto che l'EBAss, in qualità di attore protagonista del dibattito, sia integrata in questa discussione. Si è concluso che come criterio di sicurezza sia necessario fare analisi dei rischi ed elaborare programmi per rispondere alle situazioni di emergenza con esercitazioni per il personale. Inoltre, per prevenire gli incidenti da decompressione è buona pratica che il personale respiri Ossigeno puro durante l'esposizione in ambiente iperbarico. L'autore commenta che l'EBAss, unica Associazione europea costituita proprio per affrontare le tematiche specifiche riguardanti gli infermieri - gli operatori - i tecnici che operano nei Centri iperbarici, continuerà a dialogare sui temi che riguardano la Sicurezza del personale.

**Commento  
di Valeria Campanaro**

Ringrazio sinceramente R. Houman di avere creato le condizioni affinché nell'ambito dell'ECHM si cominci a pensare che al dibattito sui temi e problemi legati alla sicurezza del personale sottoposto all' ambiente iperbarico sia coinvolto il personale stesso attraverso l'EBAss. Questo è un passo importante per fare crescere nella coscienza di tutti la consapevolezza che la Sicurezza si ottiene attraverso "l'informazione, la formazione e la prevenzione".

In Italia, secondo la legge 626/94 che recepisce la normativa europea, in molti Centri Iperbarici è prassi sottoporre a sorveglianza sanitaria tutto il personale esposto a rischio iperbarico, per accertarne l'idoneità. In alcuni casi è adottato l'uso di Ossigeno come prevenzione di eventuali incidenti durante una lunga esposizione in camera iperbarica.

*Comment  
By Valeria Campanaro*

*I thank R. Houman to have create the conditions into ECHM to think that EBAss can integrate about discussion re the personnel's security in hyperbaric chamber. This is a good step to grow consciousness of everyone that the security is possible through " information, formation and prevention."*

*In Italy, as the law 626/94, the hyperbaric personnel have to get medical exams often for aptitudes.*

*Sometimes the hyperbaric personnel breath oxigen during a long esposition.*

## Practical informations

The general assembly on 13 December 2003 has decided some important points:

### Support of EBAss for external events:

The Board of Directors informs the members that there exists a procedure to support external events. The procedure is simple:

- At first the events need to correspond on the statutes and intern rules of EBAss.
- Secondly, based on the motivated advice of the concern President of Special committee, the decision will be taken by the Executive Board.

So, if you will ask a support of your association for an event: write to us. [cosette.mannens@skynet.be](mailto:cosette.mannens@skynet.be)

### EUBS 2004

The Board of Directors encourage **strongly** all members to present some works on this congress (Ajaccio - Corse 15 - 19 September 2004). If you will present a work, please contact Mr Damiens, Didier - President of Committee Scientific Approach ([dams263@free.fr](mailto:dams263@free.fr)). For your information, EBAss has negociate discount on the registration. More details in some weeks ! During this congress, EBAss will organise a General Assembly.

### Organising of events and continuing education

The Board of Directors propose to organize on each General Assembly, a continuing education programme for the members (4 presentations). This proposal is accepted by the general assembly. In case of meetings, the main problems are the cost of travel, accomodations, etc... to reduce these costs, it will be easier to ask your employer to participate in an educational program.

### Review and comment on the some parts of the statutes and the intern rules

For each member, it is important to understand the statutes and the intern rules. In the next issues of EBAss News, we will review and comment some articles of the statutes and the intern rules...

TODAY: Abstract of the statutes: article VII - Types of members

#### **Full member de facto:**

This full member is any association representative of the baromedical staff, which mandates one of its members. This association has to be localized in Europe and in possession of legalized status which correspond to the meaning of the association

#### Comments

This is the place for the national or regional European associations for the personnel working in hyperbaric/ hypobaric facilities. These associations are not professional organisations.

#### **Full member individual:**

This full member is a "physical" person who works as part of the baromedical staff in a hyperbaric centre in Europe (following the ECHM indications for HBO).

#### Comments:

This is the place of the attendants, operators, technicians and nurses working in a medical hyperbaric centre in Europe.

**Associate member – correspondent (physical person)**

This associate member is, a "physical" person who works as part of the baromedical staff in an hyperbaric centre and who doesn't live in Europe.

Comments:

This is the place of the attendants, operators, technicians and nurses working in a medical hyperbaric centre, but not in Europe.

**Associate member – correspondent (association)**

This associate member is any non-European association representative of the baromedical staff which mandates one of its members.

Comments:

This is the place of the non-european associations, active in hyperbaric and hypobaric fields.

**Associate member (physical person):**

This associate member is a "physical" person showing a real interest for baromedical science.

Comments:

This is the place for the physicians, friends, etc who are welcome

**Associate member (body corporate):**

This associate member is a body-corporate showing a real interest for baromedical science.

Comments:

This is the place for the manufacturers, professional associations, etc who can support us.

**You need more informations ? Please contact Miss Cosette Mannens on  
[cosette.mannens@skynet.be](mailto:cosette.mannens@skynet.be)**

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## **Instructions for author's**

Acceptance of a manuscript is based on originality and quality of the work as well as the clarity of presentation. All manuscripts will be evaluated for significance, soundness, and conformance to journal format by two or more members of the Editorial Board or guest referees.

After manuscripts have been accepted, authors are asked to submit the final version of the paper electronically or on computer diskette.

**Preparation of Manuscripts**

**Title:** A cover sheet which gives the title of the paper, the names and affiliations of the authors; a short title (running head); and the name, address, telephone and fax numbers, and e-mail address (if any) of the corresponding author must accompany the manuscript.

**Text:** Except in unusual situations, the manuscript should be divided into Introduction, Methods, Results, and Discussion. The overriding principles are that the composition is correct and unambiguous, clear, and concise. The active voice is usually preferable to the passive voice. Parallel construction of groups of like items or concepts aids in comprehension. Figures should be uncomplicated and legible. Abbreviations and acronyms should not be overused, should be clearly defined at their first appearance in the abstract and in the text, and should be avoided in the title. Specific items of information should appear only once in the manuscript; there should not be verbatim repetition in the text of material that appears in a table or figure, duplication of data in graphs and tables, or repetition in Discussion of information that appears in Results.

All accepted manuscripts are subject to final editing in the Editorial Office to improve readability and to conserve space.

**References:** Authors are responsible for verifying references against the original documents. References must be numbered consecutively in the order in which they first appear in the text, and identified in the text by Arabic numerals in parentheses.

Example:

Mannens, C., Houman R. ^ A Hyperbaric Pan-European Technician, Operator and Nurses Association: a necessity ? Proceedings of the 28<sup>th</sup> Annual Scientific Meeting of the European Underwater and Baromedical Society. Germonpre P., Balestra C., Eds. Bruges, Belgium. 2002 p 115

# 4<sup>th</sup> Fire Fighting Course in the hyperbaric environment

Conducted by the **Advisory Committee for Hyperbaric Oxygen Therapy in Belgium (ACHOBEL)**

President: Dr P. GERMONPRE MD

April 29 – 30, 2004

## **Who should attend:**

Hyperbaric physicians, nurses, operators, technicians who desire specific training in firefighting in hyperbaric environment. Participants should have completed an introductory course in hyperbaric medicine. Class limited to 16 participants.

## **Objective:**

The course is structured into two parts: theory and practical training. Theory focused on preventive measures of fire safety and practical training by intervention after a real fire situation in a hyperbaric chamber.

## **Theoretic course**

This part of the course will focus on acquiring a profound knowledge of all the phenomena related to fire, a knowledge of the different risk factors and their consequences, and to create an awareness of the dangers. It aims at the sensibilisation of the hyperbaric personnel to the preventive fire safety measures.

## **Practical training**

This training serves to demonstrate and acquire the correct reflex actions in case of fire, and this by creating the real conditions of fire in an hyperbaric chamber as an exercise. These exercises for the fight against fire will involve the use of all active means available for the extinguishment of the fire, in real time, and the organisation of the evacuation of the patients out of the hyperbaric chamber.

For this purpose, it is important to understand the differences of fire phenomena under normobaric and hyperbaric conditions, to experience the development of a fire in a hyperbaric environment, to organise the first aid.

## **Programme location**

The Fire Fighting Course will take place at the site of the Haux Company: HAUX LIFE-SUPPORT - Descostrasse 19 - 76037 ITTERSBAACH/ GERMANY  
Tf: +49 7248 91600

## **Registration fee:**

690 EURO to be paid on the account of ACHOBEL – 9 Sainte Anne - B 7880 FLOBECQ – Belgium: Account no. IBAN : BE08 4284 0412 9113 - KBC BANK & VERZEKERING - Frans Vekemansstraat 89 B-1120 Brussels - BIC Code: KREDBEBB

This registration fee includes: Course syllabus, hotel stay during the course (lodging, meals, hotel – site transferts), Certificate of Attendance issued by the Belgian Advisory Committee for Hyperbaric Oxygen Therapy. Also included in this Registration Fee is the

hotel stay the night before the start of the course. Registration will be confirmed upon payment of registration fees. For cancellations made less than 30 days prior to the course, full registration fee will be retained.

## **Accommodations:**

Participants are responsible for their travel. A single room has been booked under your name in a hotel. The lodging (full board excluding drinks) is included in the registration fee for the period between April 28 (evening) and April 30 (morning).

## **Education programme:**

Brief presentation of the educational board:

Dr KEMMER, Armin MD: physician – anaesthetist – Medical Director of hyperbaric centre of Murnau (Germany). President of GTÜM.

Mr ZIMMERMAN, Yorg: Engineer and technical director by HAUX company since more than 10 years. Publish many articles related to the issue of fire in hyperbaric environments. Mr HOUMAN, Robert: Safety manager of the hyperbaric centre of Brussels Military Hospital (Belgium). Member of several European working groups relating to safety in hyperbaric environments.

## **Details of the programme:**

Theoric: Physical and chemical properties of fire (under normal pressure air/ oxygen/ confined spaces). - Type of fire extinguishing systems, Fire fighting strategies, Fire extinguishing means - Regulations and norms - Measures to taken in case of fire outbreak during operation - Extinguishing systems for hyperbaric use: oxygen, technical hazards - Burn wounds and smoke inhalation injuries: study and consequences

## **Practical exercises:**

Types of exercises: Use of portable extinguishers and fire extinction by covering, “In vivo” study of fire behaviour at: 2.5 ATA 21% oxygen - 2.5 ATA 30% oxygen - Organisation of first aid and evacuation of patients from a hyperbaric room after a fire - manned wet test in hyperbaric chamber – setting of fire to samples at a pressure of 2 ATA.

It is strictly recommended that the participants have followed a basic course or have an experience in hyperbaric fields. For the practical exercises, an overall, duty boots and protection gloves are recommended. For the wet test, suitable cloths are recommended.

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