



European Baromedical Association
for nurses, operators and technicians



EBAss is all of you!

Words from the Editor

by **Damianos Tzavellas**, General Secretary, President of EBAss Communication Committee

Dear reader,

Firstly, I would like to thank you for your patience after all this time waiting to publish our Newsletter. The truth is that, during the last year, our association went through some major transformations including the transfer of our Head Office from Belgium to UK and the update of our online examination system which was offline for a few weeks. In addition, Mr Houman resigned from his position as member of the Board of Directors and Treasurer. I would like here to thank him personally, for his long-term commitment and the vision that he created for a unified, standardized and of high quality hyperbaric practice for nurses and technician with-



in Europe. You will find in this issue all our past activities and completed projects but also a list of upcoming events and projects. Our literature review identified some interesting articles in regards to complications from the treatment, pharmacological concerns and markers that could detect signs of pulmonary toxicity.

You can also send comments for current or previous issues at info@ebass.org
Enjoy your reading!!



Article

by **Konstantina Gaitanou**, President of EBAss Education Committee

Dear members,

The healthcare sector has gone through major reform during the last few years, mainly due to the rapid

technological evolution, evidence-based research and socioeconomic instabilities. It is now more necessary than ever to improve the healthcare services offered in order to provide the patient with high quality care. Manpower development and more specifically, the update of skills and

EBAss
Newsletter

January - June
2019

Calendar of Events



🕒 **EUBS conference, 09-12 September 2019 Tel Aviv, Israel**
<https://eubs2019.com>

🕒 **EBAss Safety Manager course, 5-7 November, 2019, Gozo, island Malta**
www.ebass.org

🕒 **EBAss General Assembly and Meeting for the Board of Directors, 08-09 November 2019, Gozo island, Malta** www.ebass.org

🕒 **UHMS Annual Scientific Meeting, June 18-20, 2020, San Diego, CA**
<https://www.uhms.org>

🕒 **20th International Congress on Hyperbaric Medicine, 13-16 September 2020, Rio de Janeiro**
<http://www.eubs.org>

life-time training, is of the utmost importance in Hyperbaric and Diving Medicine practices. Continuous Professional Development, as part of life-time training can be achieved by gaining a broad base of skills, knowledge and work experience.

European Baromedical Association (EBAss) works systematically towards the encouragement of integration for personnel in all European Baromedical centers by creating standardization in education and independent certification throughout the continent while supporting and encouraging a safe approach in daily practices and in improving methods of communication.

The hyperbaric chamber is a medical device that effectively treats a number of clinical indicators by placing patients inside a recompression room where oxygen is delivered while under pressure, this is termed Hyperbaric Oxygen Therapy (HBOT). This treatment has been gaining credibility throughout the world but there are risks. EBAss has recognized that all personnel working with HBOT need to be well educated, trained and independently certified.

The European Code of Good Practice (ECGP) is a document which is intended to be a reference document for European countries for Guidelines, Regulations, and Standards in Hyperbaric Medicine. It was written by members of the Working Group «Safety» of the COST Action B14 «Hyperbaric Oxygen Therapy» and approved by the Management Committee in May 2004.

Since then, more and more Hyperbaric Facilities, assimilate the instructions of the ECGP, since they feel more secure after using it. EBAAS took part in the creation of the first document and recently participated at the review of the same document (Version 19 August 2016, ECGP). In addition, a research study was conducted with the title “The use of the Eu-

ropean Code of Good Practice (ECGP) in European Hyperbaric Facilities”, which was announced at the 41st EUBS conference in Amsterdam. EBAss has also produced “The manual of resources”. The main purpose of this document is to describe the training, based on the ECHM recommendations, of nurses, operators and technicians working in a hyperbaric facility in Europe.

The EBAss/ECHM Resources manual is intended to be a reference document for European countries for guidelines, regulations and standards in hyperbaric medicine. This document was written by the members of the Education Committee of the European Baromedical Association for nurses, operators and technicians (EBAss). The EBAss/ECHM Resources manual includes modules for multiplace and monoplace chambers (pending review and updated version by ECHM/EBAss).

In 2013 a new chapter that referred to the role of the Safety Manager was added. There is a need to develop a formal standardized management team within European hyperbaric facilities. Management of the team as a whole is important and safety should be a major part of this team for any Hyperbaric Unit. The medical director has a right and specific requirement to have a competent individual as part of this team who can rely on for the safety of the hyperbaric facility. This person will be ultimately linked to the medical director. The chapter included the functions of the safety manager, education of the Safety manager, job profile and certification.

Finally, it is should be acknowledged that in Porto, Portugal (2017) and in Barcelona, Spain (2018) the Safety Manager Course took place organized by EBAss members of the Board of Directors. The 3rd one will take place in Island of Gozo, Malta, on 5th of November 2019, aiming to finalize and publish recommendations for the training of Safety Managers and certify Training centers to deliver similar courses.

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General Assembly (GA)

6th October 2018

by EBAss

The main discussion topic during our last GA was the dissolution of EBAss based in Belgium and the formation of the new EBAss scheme as a UK based charity. The main reason for this transition was the resigning of Mr Robert Houman from his active participation on the Board of Directors and in the Association. Another reason was the long term solution and transfer of the administration to a place such as DDRC whose support all these years with Mr Atkey and the functioning of the Accreditation scheme has been fundamental. At a snapshot, the General Secretary presented the situation of EBAss memberships (full individual, associate/corporate, etc)

and the Treasurer presented the EBAss accounts with a proposal for the 2019 budget



distribution. After formation of the new EBAss, members placed their candidature for the new Board of Directors. It was Mrs A.Chandrinou who was then re-elected President, Mrs K.Gaitanou who was then re-elected the President of the Education Committee, Mr M.Preto was elected vice-President, Mr D.Tzavellas who was re-elected the General Secretary and the President of the

Communication Committee, Mr P.Atkey who was elected as the new Treasurer and was re-elected as President of the Accreditation Committee. Mr M.Parceiro was also re-elected the President of the Safety Committee.

For more details you can visit the members area and download the minutes of the GA in English and French.

Our next GA and meeting for the Board of Directors will take place at Gozo island, Malta and we are looking forward to see you all there!



EBAss News

EBAss activities of the last 6 months

- ✓ The 2nd Safety Manager course by EBAss was successfully held in Barcelona, Spain.
- ✓ EBAss General Assembly and meeting of the Board of Directors took place in Barcelona, Spain.
- ✓ EBAss online meeting of the Board of Directors took place in May 2019.
- ✓ The 1st announcement for the 3rd Safety Manager course is now available online at the EBAss website.
- ✓ An online database is currently being developed at the EBAss website for networking between European hyperbaric personnel. Please go online (at <https://ebass.org>) and place your facility with a person in contact.
- ✓ An online database developed for Evidence related to Hyperbaric Nurses and Technician also at <https://ebass.org>.



- ✓ The exchange program of hyperbaric personnel is re-activated. More information will be announced soon.
- ✓ Translation of GA minutes in French, Spanish and Italian.

Welcome of new members

We would like to welcome onboard and thank for their support, the following personnel who joined EBAss during the last year

1. Sanna Antonio
 2. Almaneeni Hamad
 3. Tsankova Krasimira
 4. Gomez-Lopez Oscar
 5. Godward Dena
 6. Casero Ivan Salazar
 7. Vila I Vidal Dalmau
 8. Booth James
 9. Castillo Miquel Altabás
- Since then, there are another 25 new members that have

joined EBAss and are awaiting for official acceptance at the next GA. So, thank you again everyone for your interest and support!

EBAss Accredited centres for 2019

The following centres are EBAss accredited to run training courses for Chamber Operators, Nurses, ICU Nurses or Attendants (not nurse), specialized to work under Hyperbaric conditions.

1. HBO Cyprus - Cyprus
2. DDRC Professional Services - UK
3. Haux Life Support Germany - Germany
4. Haux Life Support Netherlands - Netherlands
5. Centro Di Medicina Iperbarica, PADOVA - Italy
6. Hyperbaric Health - Australia
7. University of Gdansk - Poland
8. National Hyperbaric Medicine Unit, Ireland
9. Athens Naval Hospital - Greece

Recent Publications

abstracts of articles related to Hyperbaric Nurses and Technicians, excl. medical indications or interventions

keywords: Hyperbaric, oxygen

search machine: Medline

period of search: 12/2018 - 6/2019



1. Lung function change in hyperbaric chamber inside attendants.

Poolpol P et al, Int Marit Health. 2019;70(2):125-131. doi: 10.5603/IMH.2019.0020.

CONCLUSIONS:

Working in a hyperbaric environment does affect the lung function of HIAs. In addition to fitness to work implementation, periodic lung function evaluation should be encouraged to monitor further possible harm to the attendants.

2. The Hyperbaric Protective Tube: A housing for a left ventricular assist device (LVAD) in a multiplace hyperbaric chamber.

Kot J et al. Diving Hyperb Med. 2019 Jun 30;49(2):137-140. doi: 10.28920/dhm49.2.137-140.

CONCLUSION:

An isolation housing that vents into the dumping system of the hyperbaric chamber allows for the safe use of critical medical devices without prior testing for their compatibility with the hyperbaric environment.

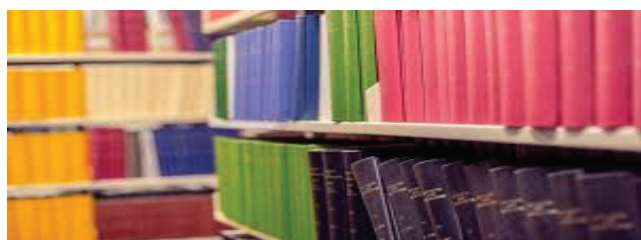
3. Systematic review on the effects of medication under hyperbaric conditions: consequences for the diver.

Hoencamp E et al. Diving Hyperb Med. 2019 Jun 30;49(2):127-136. doi: 10.28920/dhm49.2.127-136.

DISCUSSION AND CONCLUSIONS:

Animal studies revealed that psycho-pharmaceuticals can limit the onset of neurologic symptoms and cardiovascular protective drugs might add a potential protective effect against decompression sickness.

sion sickness. No evidence of significant risks due to changes in pharmacologic mechanisms were revealed and most medication is not a contraindication to diving. For improving decision making in prescribing medicine for recreational and occupational divers and to enhance safety by increasing our understanding of pharmacology in hyperbaric conditions, future research



should focus on controlled human studies.

4. Risk of continuous bladder irrigation in the monoplace hyperbaric chamber: a cautionary tale.

Cooper JS and Lagrange CA, Undersea Hyperb Med. 2018 Nov-Dec;45(6):683-684.

ABSTRACT:

We previously published our method of performing continuous bladder irrigation (CBI) in a monoplace hyperbaric chamber [1]. This method entailed the use of an IV pump to infuse saline into the monoplace chamber. The specter of causing iatrogenic rupture of the bladder was raised following such a case, reported herein, of a woman with hemorrhagic radiation cystitis leading to cystectomy. Due to the danger of bladder rupture while providing CBI with a pump, we retract our previously reported method and encourage the use of either a gravity-fed system or delay in hyperbaric oxygen therapy treatment until CBI is no longer necessary.

5. Markers of Pulmonary Oxygen Toxicity in Hyperbaric Oxygen Therapy Using Exhaled Breath Analysis.

Wingelaar TT et al. Front Physiol. 2019 Apr 24;10:475. doi: 10.3389/fphys.2019.00475. eCollection 2019.

DISCUSSION:

Although similar VOCs were found when compared to diving, the decrease of methyl alkanes (PC2) is in contrast to the increase seen in divers. It is unknown why emission of methyl alkanes (which could originate from the phosphatidylcholine membrane in the alveoli) are reduced after HBOT. This suggests that HBOT might not be as damaging to the pulmonary tract as previously assumed. Future research on POT should focus on the identified VOCs (inflammation and methyl alkanes).

6. Dehydration of a diver during a hyperbaric chamber exposure with oxygen decompression.

Kaczerska D et al. Undersea Hyperb Med. 2019 Mar-Apr-May;46:185-188

CONCLUSION:

Hyperbaric conditions are conducive to the dehydration of the diver's body, however to a degree which does not lead to an occurrence of health hazards. Good care for one's health through proper nutrition and hydration are sufficient preventive and protective measures.

7. Myopic shift and lens turbidity following hyperbaric oxygen therapy - a prospective, longitudinal, observational cohort study..

Riedl P et al. Acta Ophthalmol. 2019 Jan 28. doi: 10.1111/aos.14010. [Epub ahead of print]

CONCLUSION:

The transient myopic shift may have been due to lenticular refractive index changes. Reduced lens transparency is a potential consequence of HBOT.



SAFETY MANAGER COURSE

FOR HYPERBARIC PERSONNEL

After a very successful Safety Manager course in 2018 at Barcelona it is our pleasure to invite you to our 3RD SAFETY MANAGER COURSE IN GOZO ISLAND, MALTA FROM NOVEMBER 5-7, 2019.

This 3 day course (from 09.00-17.00 each day) is designed to provide experienced hyperbaric personnel with the knowledge and skills needed to fulfill the criteria for the role of the Safety Manager. The curriculum includes classroom instructions and practical exercises.

Admission criteria

The requirements are completion of an introductory course in Hyperbaric Medicine and working experience in facilities that deliver Hyperbaric Oxygen Therapy. Applications are therefore considered from physicians, nurses, operators and technicians. Priority will be given to nurses and operators that have already been certified under the EBAss/ECB scheme of ECHRN and ECHCO.

Objective

The course's objective is to prepare the participant for the role of the Safety Manager in Hyperbaric facilities. Main points of the role are based on a "Global" approach to management of safety and education within the team, including:

- the implementation of effective Safety Management and Quality Assurance systems with the use of guidelines, clinical protocols and internal audits that comply with local, national and European directives as well as with evidence based practices.
- the application of risk assessment and incident/accident reporting procedures within the Hyperbaric Centre.
- the acceptance and monitoring of effective education programs; including requirements for Clinical Practice Development of the hyperbaric team.

Course Description

This 3-day course (from 09.00-17.00 each day) is designed to provide experienced hyperbaric personnel with the added knowledge and skills needed to fulfil the criteria for the role of the Safety Manager. The emphasis will be on the review of European Norms that are related to hyperbaric technology (e.g. EN 14931, EN 14971, EN 16081), presentation of the European Code of Good Practice with reference to clinical practice, staff and patient education, infection control policies, firefighting systems and strategies, documentation, risk analysis and general principles in safety management such as safety culture.

Language

The official language of the course is English.

All study material as well as exams will be given in English.

There will be support offered by Spanish speaking personnel for those who require clarification of points.

Course location

Location - Gozo Island, Malta. Lectures and Practical sessions will take place at the Gozo General Hospital, Malta

Dates

5-7 of November 2019

For more information or interest to attend please contact us at info@ebass.org



European Baromedical Association
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2nd Safety Manager Course in Barcelona

FOR HYPERBARIC PERSONNEL

The 2nd Safety Manager Course was successfully completed last October at the Hyperbaric Unit of Prof. Desola in Barcelona, Spain. Most of the participants, except one from UK, were from Spain which made it a great experience in terms of shared knowledge and shared experiences with person-

nel from this part of Europe.

We would like to thank the local hosts, **Mr. Tony Moreno** (Head Technician), **Dr. Papoutsidakis** and **Professor Desola** for their amazing hospitality and organization of the event.



Attention!!

The registration form for becoming a new EBAss member or renew your existing membership you can find online at <http://ebass.org/registration-form/>

The process for members to join the Board of Directors can be found in part IV of the EBAss statutes at <http://ebass.org/statutes/>

Corporate members



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