

European Journal of Underwater and Hyperbaric Medicine



Official NEWSLETTER

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DISCLAIMER: All opinions expressed are given in good faith and in all cases represent the views of the writer and are not necessarily representative of the policy of the EUBS.

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EDITOR'S COLUMN

Dear Readers!

The Holiday Season has passed too fast as usual and we are on the verge of spring. A time, were we tend to clean the house for summer and get rid of some of the stuff we have assembled during the winter while more or less hibernating.

When cleaning up your desk you may find some research or other useful information you haven't been able to finish for publication during the wintertime. Please, don't forget to consider this material for publication in the European Journal of Underwater and Hyperbaric Medicine!

Instead of stuffing it into a drawer and delaying it for the time being put it into format and submit it to the journal. You will be rewarded with an immediate review and a publication in due course. Dr. Alf Brubakk and his Review Board are eagerly to get more papers for peer review.

I can not repeat often enough how grateful I am that he and his board have been available for the reviews of the manuscripts submitted. In the beginning it used to be myself who had to identify suitable reviewers, luckily I never was turned down by anybody whom I had approached. Now I just send the paper off to Alf and get back a review within two weeks, and most of the times it is even less! If the authors reply with the same speed we can assure a publication in the next available issue of the Journal. I think this is just great and I hope you agree by submitting more papers.

Truly yours

Peter

Dr. Adel Taher from the Hyperbaric Medicine Center in Sharm-el-Sheikh/Egypt has been elected as Member-at-Large 2002. He replaces Dr. Mikael Gennser. We wish Dr. Taher all the best for his 3 year tenure!

PRESIDENT'S NOTE

Dear Friends and colleagues,

I recently carried out an extensive search of the scientific literature on a particular argument in Baromedicine and while I found a few papers in the English language, when I extended the search to a number of major languages, I was deluged with a huge amount of scientific work.

While my translation software permitted me to get the gist of some of these studies, most were either translated into an unintelligible load of garbage or the translator simply gave up.

I then did what most of you would have done and wrote to those authors whose papers seemed most promising, asking for an English translation of at least the abstract and although some kindly obliged, most said that it was not available or not possible for them.

The point of all this is that it is a great pity that most of us publish in our national journals, in our own language of course, but fail to create a translation, summary or abstract in the one language we all seem to understand, that is English.

Not doing this means that our work cannot be read and studied by all those who seek it and this is a great loss to all of us.

I am not saying here that we should only publish in the English language journals as we need to create an awareness on Baromedicine in our own countries but we should all consider the wider audience we will be reaching when publishing in English language journals, especially in the case of seminal research.

We could also take the opportunity of publishing an English abstract of our work in this journal, this way all the membership can become aware of our research in the field and so there would be a greater possibility of scientific networking across borders.

Our Speciality needs to benefit from the greater exposure the English language gives, especially now when health budgets are becoming tighter and tighter.

**Ramiro Cali-Corleo,
President**

MEETINGS

“PREVENTION OF DYSBARIC INJURIES IN DIVING AND HYPERBARIC WORK”

**6th Consensus Conference of the European
Committee on Hyperbaric Medicine (ECHM)**
jointly with the
European Diving Technology Committee (EDTC)
with the support of
Divers Alert Network (DAN) Europe

Friday, October 24 and Saturday October 25, 2003
University Hospital Geneva (HUG)
Language: English

The Consensus Conference is a recognized scientific method for the establishment of standards in domains where double blind studies and high level evidence based reports are lacking.

For the special domain of dysbaric injury where few accidents have potentially heavy consequences, five questions of actual interest are addressed to international experts.

The presentations are followed by open discussions and the session will be summarized by a rapporteur. A scientific jury composed of international reference persons will discuss the rapports and conclude with recommendations that are presented the day after the experts' presentations, after lunch.

Questions:

1. Is there a consensus about the fitness-to-dive criteria?
2. Is a medical re-assessment necessary for all divers?
3. Should safety management be the same independent of diving activities?
4. Which is the role of decompression procedures for prevention of dysbaric injuries?
5. Does personal of hyperbaric treatment chambers need specific safety procedures to prevent dysbaric injury?

Scientific committee:

- Daniel Mathieu (ECHM)
- Sandro Marroni (DAN Europe)
- Crawford Logan (EDTC)
- Jordi Desola (EDTC/ECHM)
- Jürg Wendling (EDCT/ECHM)

Organising committee:

- Jürg Wendling (Chairman)
- Daniel Slosman
- Jörg Schmutz

Experts, rapporteurs and jury members will be published in the next announcement and on the homepage. **Information:** www.edtc.org



EUBS 2003

**29th Annual Scientific Meeting of the European Underwater and
Baromedical Society on Diving and Hyperbaric Medicine**
August 27th – 31st, 2003
Copenhagen, Denmark

**Organised by the Department of Anaesthesiology, Center of Hyperbaric Medicine,
Rigshospitalet, Copenhagen in collaboration with EUBS**

For details see back cover !

LETTERS TO THE EDITOR

Dear Peter

I have just received my EUBS journal. Another excellent edition well done. For my sins I am now the British Hyperbaric Association (BHA) Newsletter Editor and I whole heartily support your comments in your December 2002 Editor's column.

It is important if our associations or societies are to grow and remain viable, we must encourage the present and new members to pay their annual membership fees. I firmly believe that means making the renewal process as simply as possible. After all, who can remember if they have paid or not. For example I paid my fees at the Brugge meeting but can not remember if they were for last year or next. This means that someone on the committee has to have the time to be proactive and chase the members who have not renewed. May be it would also be helpful to use a 1/4 of a page once a year to have a fill in-tear out section for membership renewal. The BHA has the same problems with membership renewals and e-mail must be the easiest way to remind people their membership fees are overdue.

I must also say that I really enjoyed the article "Royal Navy Medical Support to Russian Rescue Attempt Following Sinking of the Kursk" by Surgeon Commander Peter J Benton. It was a thoroughly good read and a nice change from the usual medical research material (good for us technicians).

Keep up the good work.

Roly Gough-Allen
BHA Newsletter Editor
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HBO: Should we try it in acute pancreatitis?

In the December 2002 issue of the European Journal of Underwater Hyperbaric Medicine Dr. Grönroos and colleagues (1) report on a small series of experiments in rats subjected to severe experimental pancreatitis induced by intraductal injection of sodium taurocholate. 90 minutes of hyperbaric oxygen (HBO; 2 atmospheres absolute pressure) initiated immediately after the induction of acute pancreatitis did not reduce the amount of pancreatic necrosis vs. controls 9 hours after injury.

HBO has an established position in the treatment of many different diseases including decompression sickness, "non-healing wounds", crush injury,

compartment syndrome and different traumatic ischemic lesions (<http://www.uhms.org/indications.htm>).

Acute pancreatitis is an inflammatory disease which, in its most severe form, results in digestive necrosis of the pancreas. Overall mortality from acute pancreatitis is ~10% but, if complicated by pancreatic necrosis, 20% - 40% of patients die. Although the exact mechanisms resulting in acute pancreatitis are not well-understood, it is generally accepted that the role of ischemia is crucial in the early pathogenesis of acute pancreatitis, especially in the development of pancreatic necrosis (2). The earliest observable lesions in experimental pancreatitis occur with the acinar cells involving prematurely activated enzymes and disruption of duct and acinar cell cytoskeleton and of tight junctions (3). Subsequent impairment of the pancreatic microcirculation, including the sludging of erythrocytes, hemagglutination, local increases of thromboxane and oxygen radicals, reduction of nitric oxide, and increased capillary permeability along with neutrophil accumulation, leads to tissue injury and loss of fluid into the interstitial space and edema. These initial steps mediate severe tissue damage and systemic complications that are known to govern the course and outcome of the disease (4).

The concept of improving oxygen delivery in an ischemic penumbra in order to stop this above mentioned circle is therefore logical. Despite the fact that HBO is used since more than 30 years only little is known about the impact of HBO on the development of acute pancreatitis. While Chen and co-workers (5) reported a beneficial effect of HBO on pancreatic microcirculation and lung edema in GDOC-induced pancreatitis of the rat the current study by Grönroos et al. (1) failed to show a significant reduction of pancreatic necrosis after taurocholate pancreatitis in rats. Since there was a tendency to a reduced amount of necrosis in rats with HBO therapy Grönroos and co-workers speculate that intensifying the HBO treatment protocol might also have beneficial effects in their model. The different results of the two studies might be explained by the different techniques used to induce acute pancreatitis. The intraductal application of Sodiumtaurocholate (especially with 5% Na-TC) induces a very severe form of pancreatitis with massive edema and hemorrhage visible immediately after the injection resulting in sudden necrotizing injury. Despite severe damage of the pancreas comparable to controls improved survival rates could be demonstrated by different interventions using this experimental model (6). It may be speculated that other experimental endpoints than histologic changes should be used in taurocholate pancreatitis in order to evaluate a therapeutic strategy. The combination of hyperstimulation with cerulein and intraductal infusion of glycodeoxycholic

acid (GDOC-pancreatitis) induces a moderate pancreatitis which is progressive over at least 24 hours (7). Therefore this model may provide superior opportunity to study therapeutic interventions.

The direct delivery of oxygen to pancreatic tissue by HBO may have some merit. Different models of experimental pancreatitis should be used in order to clarify the role of supplemental oxygen. However, the putative risk of marked oxidative stress in injured pancreatic tissue could represent a potential problem since reactive oxygen species are believed to be important mediators of early pancreatic cell damage (8). Therefore potential side effect should carefully be monitored in further experiments.

Although the results of the two studies on HBO in acute pancreatitis are in part conflicting the concept of improved oxygen delivery is of potential interest and additional careful studies in the laboratory setting are warranted. There remains a lot of work to do before HBO therapy in acute pancreatitis will be ready for clinical application but perhaps HBO will be the therapeutic breakthrough in the setting of ischemic pancreatic injury.

1. Grönroos JM, Rönkä R, Laine J, Niinikoski J. No effect of hyperbaric oxygen therapy on sodium taurocholate induced pancreatic necrosis in the rat. *Europ J Underwater Hyperbaric Med* 2002, 3(4): 113-115
2. Menger MD, Vollmar B. Microcirculation: initiating or aggravating factor. In: Büchler MW, Uhl W, Friess H, Malfertheiner P (eds.). *Acute Pancreatitis*. Blackwell Science, Berlin, 1999.
3. Müller MW, McNeil PL, Büchler MW, Friess H, Beger HG, Bockman DE. Membrane wounding and early ultrastructural findings. In: Büchler MW, Uhl W, Friess H, Malfertheiner P (eds.). *Acute Pancreatitis*. Blackwell Science, Berlin, 1999.
4. Lankisch PG, Banks PA. *Pancreatitis*. Springer, Heidelberg 1998.
5. Chen HM, Shyr MH, Ueng SW, Chen MF. Hyperbaric oxygen therapy attenuates pancreatic microcirculatory derangement and lung edema in acute experimental pancreatitis. *Pancreas* 1998; 17: 44-49.
6. Fiedler F, Croissant N, Rehbein C, et al. Acute-phase response of the rat pancreas protects against further aggression with severe necrotizing pancreatitis. *Crit Care Med* 1998; 26: 887-894.
7. Schmidt J, Rattner DW, Lewandrowski K, et al. A better model of acute pancreatitis for evaluating therapy. *Ann Surg* 1992; 215: 44-56.
8. Dabrowski A, Konturek PC, Konturek SJ, Gabryelewicz A. Role of reactive oxygen species in the pathogenesis of caerulein-induced acute pancreatitis. In: Büchler MW, Uhl W, Friess H, Malfertheiner P (eds.). *Acute Pancreatitis*. Blackwell Science, Berlin, 1999.

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Author's reply:

We thank Dr Fiedler for his comments and agree with his views. Although the ductal model of acute pancreatitis used in our study is reliable and best resembles human acute pancreatitis, also other models of experimental acute pancreatitis such as the hyperstimulation model may prove useful in studying the role of HBO treatment in acute pancreatitis. Further, since the pathophysiological mechanisms leading to organ failures in acute pancreatitis appear to be similar to those in septic shock and other severe infections, the effects of HBO treatment on the systemic inflammatory response (SIRS), in particular, as well as on the other organ systems such as pulmonary and renal functions during the course of acute pancreatitis remain to be established.

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INSTRUCTIONS TO AUTHORS

The **EJUHM** welcomes contributions (including letters to the Editor) on all aspects of diving and of hyperbaric medicine. Manuscripts must be offered exclusively to the **EJUHM**, unless clearly authenticated copyright exemption accompanies the manuscript. All manuscripts will be subject to peer review, with feedback to the authors. Accepted contributions will be subject to editing.

Manuscripts are accepted in English, and also in major European languages (French, Spanish, Italian and German) when accompanied by an English abstract.

Contributions should be sent to

Dr. Peter HJ Mueller, Editor EJUHM, C/o HBO-Zentrum Rhein-Neckar am Diakoniekrankenhaus Mannheim, Speyerer Strasse 91-93, D-68163 Mannheim/Germany. Fax: +49-621-8102 393. Phone: +49-621-8102 390. E-mail: eubs@hbo-mannheim.de

Requirements for Manuscripts

The **EJUHM** is composed on a PC using Word processing. Documents are acceptable on disc or by e-mail. Illustrations and tables should **NOT** be embedded in the Word document, only their position indicated. All tables are to be separate documents. Illustrations should be separate documents in Word or TIFF, clearly marked with the format used. References should be in the correct format, shown in the next column. Submissions must be accompanied by two printed copies of all text, tables and illustrations.

The printed copies should be double-spaced, using both upper and lower case, on one side of the paper only, on A4 paper. Headings should conform to the format in the Journal. All pages should be numbered. No part of the text should be underlined. These requirements also apply to the abstract, references, and legends to figures. Measurements are to be in SI units (mm Hg are acceptable for blood pressure measurements) and normal ranges should be included. All tables should be double spaced on separate sheets of paper. No vertical or horizontal rules are to be used.

Photographs should be glossy black-and-white and slides should be converted to photographs before being sent. Colour reproduction is not available. Legends should be less than 40 words, and indicate magnification.

Abbreviations do not mean the same to all readers. To avoid confusion they should only be used after they have appeared in brackets after the complete expression, e.g. decompression illness (DCI) can thereafter be referred to as DCI.

The preferred length for original articles is 2,500 words or less. Inclusion of more than 5 authors requires justification. Original articles should include a title page, given the title of the paper and the first names and surnames of the authors, an abstract of no more than 200 words and except in unusual situations be subdivided into Introduction, Methods, Results, Discussion and References. After the references the authors should provide their initials and surnames, their qualifications, and the positions held when doing the work being reported. One author should be identified as Correspondent for the Editor and for readers of the Journal. The full current postal address of each author, with the Telephone, facsimile numbers and e-

mail address of the corresponding author, should be supplied with the contribution. No more than 40 references per major article will be accepted. Accuracy of the references is the responsibility of authors. Acknowledgments should be brief.

Abstracts are also required for all case reports and reviews. Letters to the Editor should not exceed 400 words (including references which should be limited to 5 per letter).

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. References cited only in tables or legends should be numbered in accordance with a sequence corresponding to the first mention of the table or figure in the text. List names and initials of all authors when six or less, when seven or more, list only the first three authors and add et al.. Citations in the reference list are to be in the form used by the U. S. National Library of Medicine and *Index Medicus*:

1. Thorsen E, Risberg J, Segadal K, Hope A. Effects of venous gas microemboli on pulmonary gas transfer function. *Undersea Hyperbaric Med* 1995; 22:347-353.
2. Hempleman HV. History of decompression procedures. In: Bennett PB, Elliott EH, eds. *The physiology and medicine of diving*. London: WB Saunders, 1993:324-375.
3. Kindwall EP, Goldmann RW. *Hyperbaric medicine procedures*. Milwaukee, WI: St. Luke's Medical Center, 1970.

Manuscripts that have been accepted should be cited in the reference list as regular references, with "in press" in place of journal pages. Citations such as "unpublished observations", "personal communication", "manuscript in preparation", or "to be published" are not to appear in the reference list, although reference to such a communication, if it exists in written form, may be cited in the text in parentheses. References to government reports should not be cited unless such reports are easily available to all readers.

Consent

The **EUBS** endorses the principles of the Declaration of Helsinki on the treatment of human subjects and approved guiding principles in the care and use of animals. Any report of experimental investigation on human subjects must contain evidence of informed consent by the subjects and of approval by the relevant institutional ethical committee.

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EUBS 2003

29th Annual Scientific Meeting of the European Underwater
and Baromedical Society on Diving and Hyperbaric Medicine

August 27th – 31st, 2003

Copenhagen, Denmark

SECOND ANNOUNCEMENT

Organised by the Department of Anaesthesiology,
Center of Hyperbaric Medicine, Rigshospitalet, Copenhagen
in collaboration with EUBS

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D-68163 Mannheim/Germany

Programme:

- **Monday-Tuesday 25-26th:** Pre-congress diving trip in Danish and Swedish waters (*separate registration*)
- **Wednesday 27th:** Pre-congress workshop on accreditation, safety and maintenance of HBO systems (*separate registration*).
Wednesday evening: Welcome reception - Copenhagen City Hall
- **Thursday 28th:** Registration - Opening Ceremony.
Scientific programme with free papers
- **Friday 29th:** Scientific programme with free papers including posters
Friday evening: Annual EUBS banquet - Tre-kroner Fortress in Copenhagen including boat transfer (*separate registration*)
- **Saturday 30th:** Scientific programme with free papers
Saturday afternoon: Workshop on rebreathers. New EU/CEN standards of 2003
- **Sunday September 1st of Sept.:** Workshop on diving with asthma or diabetes (*separate registration*)

Deadlines-EUBS Congress 2003:

- Early registration deadline – June 25th, 2003
- No refunds with cancellations after August 1st, 2003.

Deadlines for submission of Abstract and papers for EUBS proceedings:

- Submission of abstracts before June 1st, 2003.
- Accepted papers for the EUBS proceedings before July 25th, 2003

All abstracts and papers MUST be submitted in electronic format as a MS-Word document. Do not use letter mail. Further information will be given on the EUBS website.

The second announcement, including registration and abstract forms, will be displayed on the EUBS website at www.eubs.org.

For general meeting information, please contact: Conventum Congress Service at: ccs@conventum.dk

For information on scientific programme, please contact: Rigshospitalet at: marianne.jensen@rh.dk