

# **Diving and Hyperbaric Medicine**

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## **EDITORIALS**

The Editor's offering

Davis M

[No Key words]

2015;45(1):1-2.

2015;45(3):145.

2015;45(4):217.

Hyperbaric oxygen treatment for the critically ill patient

Weaver LK

Hyperbaric oxygen, hyperbaric medicine, intensive care medicine, editorials

2015;45(1):1.

Persistent (patent) foramen ovale (PFO): implications for safe diving

Germonpré P

Persistent foramen ovale; decompression illness; editorials

2015;45(2):73-74.

Commentary: Hyperbaric oxygen treatment for wounds – evidence and the Sword of Damocles

Laden G

Wounds; hyperbaric oxygen therapy; cost-effectiveness; editorials

2015;45(4):218.

## **THE PRESIDENTS' PAGES**

President SPUMS

Smart D

Medical society; general interest

2015;45(1):2-3.

Medical society; general interest

2015;45(3):146.

Medical society; hyperbaric medicine; cost effectiveness; general interest

2015;45(4):220.

Increasing membership of EUBS?

President, EUBS

Balestra C

Medical society; general interest

2015;45(1):3.

Kot J

Medical society; general interest

2015;45(4):219.

## **ERRATUM**

Balestra C

Erratum; bubbles; decompression sickness; endothelium; surfactant; editorial; medical society

2015;45(1):3.

## **ORIGINAL ARTICLES**

The effect of pre-dive ingestion of dark chocolate on endothelial function after a scuba dive

Theunissen S, Balestra C, Boutros A, De Bels D, Guerrero F, Germonpré P

Antioxidants; cardiovascular; hyperoxia; nitric oxide; diving research; scuba; circulation

2015;45(1):4-9.

Flying after Diving: should recommendations be reviewed? In-flight echocardiographic study in bubble-prone and bubble-resistant divers

Cialoni D, Pieri M, Balestra C, Marroni A

Echocardiography; Doppler; bubbles; altitude; flying (and diving); recreational diving; remote locations; travel

2015;45(1):10-5.

The five-minute prebreathe in evaluating carbon dioxide absorption in a closed-circuit rebreather: a randomized single-blind study

Deng C, Pollock NW, Gant N, Hannam JA, Dooley A, Mesley P, Mitchell SJ

Scuba diving; rebreathers/closed circuit; carbon dioxide; hypercapnia; rebreathing; capnography; physiology

2015;45(1):16-24.

An observation of venous gas emboli in divers and susceptibility to decompression sickness  
Gawthrope IC, Summers M, Macey DJ, Playford DA  
Decompression sickness; Doppler; venous gas emboli; scuba diving  
2015;45(1):25-9.

Hyperbaric oxygen therapy increases insulin sensitivity in overweight men with and without type 2 diabetes.  
Wilkinson D, Nolting M, Mahadi MK, Chapman I, Heilbronn L  
Decompression sickness; Doppler; venous gas emboli; scuba diving  
2015;45(1):30-6.

A rat model of chronic moderate alcohol consumption and risk of decompression sickness  
Buccacott P, Mazur A, Wang Q, Lambrechts K, Theron M, Guerrero F  
Animal model; decompression illness; risk factors; hyperbaric research; regression analysis  
2015;45(2):75-78.

A comparison of the tissue oxygenation achieved using different oxygen delivery devices and flow rates  
Blake DF, Naidoo P, Brown LH, Young D, Lippmann J  
Scuba diving; decompression illness; first aid; oxygen; equipment; transcutaneous oximetry; medical kits; DAN (Divers Alert Network)  
2015;45(2):79-83.

Cutis marmorata in decompression illness may be cerebrally mediated: a novel hypothesis on the aetiology of cutis marmorata  
Kemper TCPM, Rienks R, van Ooij PJAM, van Hulst RA  
2015;45(2):84-88.

Comparison of the size of persistent foramen ovale and atrial septal defects in divers with shunt-related decompression illness and in the general population  
Wilmshurst PT, Morrison WL, Walsh KP, Pearson MJ, Nightingale S  
Patent foramen ovale (PFO); persistent foramen ovale; right-to-left shunt; decompression illness; venous gas embolism; neurology; migraine  
2015;45(2):89-93.

An audit of persistent foramen ovale closure in 105 divers  
Pearman A, Bugeja L, Nelson M, Szantho GV, Turner MS  
Patent foramen ovale (PFO); persistent foramen ovale; echocardiography; right-to-left shunt; transcatheter closure; clinical audit  
2015;45(2):94-97.

A 10-year estimate of the incidence of decompression illness in a discrete group of recreational cave divers in Australia  
Harris RJD, Frawley G, Devaney BC, Fock A, Jones AB  
Decompression illness; decompression sickness; cave diving; technical diving; first aid; epidemiology; clinical audit  
2015;45(3):147-153.

Provisional report on diving-related fatalities in Australian waters 2010  
Lippmann J, Lawrence C, Fock A, Wodak T, Jamieson S, Harris R, Walker D  
Diving deaths; scuba; breath-hold diving; surface-supply breathing apparatus (SSBA); diving accidents; case reports  
2015;45(3):154-175.

Middle ear barotrauma in a tourist-oriented, condensed open-water diver certification course: incidence and effect of language of instruction  
Blake DF, Gibbs CR, Commons KH, Brown LH  
Barotrauma; middle ear; risk factors; instruction – diving; training; education  
2015;45(3):176-180.

The prevalence of oro-facial barotrauma among scuba divers  
Yousef MK, Ibrahim M, Assiri A, Hakeem A  
2015;45(3):181-183.

Does self-certification reflect the cardiac health of UK sport divers?  
St Leger Dowse M, Waterman MK, Penny CEL, Smerdon GR  
Health surveys; recreational divers; cardiovascular; medicals – diving; fitness to dive  
2015;45(3):184-189.

Correction for adiabatic effects in the calculated instantaneous gas consumption of scuba dives  
Schellart NAM, Le Péchon J-C  
Gases; gas supply; universal gas law; thermodynamics; models; ascent; computers – diving  
2015;45(4):221-227.

Economic outcomes in clinical studies assessing hyperbaric oxygen in the treatment of acute and chronic wounds

Santema TB, Stoekenbroek RM, van Steekelenburg KC, van Hulst RA, Koelemay MJW, Ubbink DT  
Hyperbaric oxygen therapy; wounds; outcome; cost-effectiveness; systematic review  
2015;45(4):228-234.

## **REVIEW ARTICLES**

The role of persistent foramen ovale and other shunts in decompression illness

Wilmshurst PT

Right-to-left shunt; persistent foramen ovale (PFO); arterial gas embolism; decompression illness; bubbles; percutaneous closure; review article

2015;45(2):98-104

Pathophysiology of inner ear decompression sickness: potential role of the persistent foramen ovale

Mitchell SJ, Doolette DJ

Assessing potential divers with a history of congenital heart disease

Turner MS

Fitness to dive; cardiovascular; pathology; physiology; children; right-to-left shunt; review article

2015;45(2):111-115.

Underwater blast injury: a review of standards

Lance RM, Bass CR

Underwater hazards; blast; injuries; diving incidents; pathology; risk assessment; review article

2015;45(3):190-199.

Cone shell envenomation: epidemiology, pharmacology and medical care

Halford ZA, Yu PYC, Likeman RK, Hawley-Molloy JS, Thomas C, Bingham J-P

First aid; envenomation; toxins; pharmacology – marine; deaths; symptoms; treatment; review article

2015;45(3):200-207.

The aging diver: endothelial biochemistry and its potential implications for cardiovascular health

Berenji Ardestani S, Buzzacott P, Eftedal I

Age; diving; cardiovascular; endothelium; stress; free radicals; review article

2015;45(4):235-239.

## **PFO AND ASD CASE REPORTS**

Delayed blood-brain barrier disruption after shallow-water diving demonstrated by magnetic resonance imaging

Hadanny A, Tal S, Fishlev G, Bechor Y, Efrati S

Decompression sickness; persistent foramen ovale; radiological imaging; brain; hyperbaric oxygen therapy; case report

2015;45(2):116-120.

Atrial septal defect: a coincidental finding on a screening medical

Elliott EJ

Right-to-left shunt; cardiovascular; radiological imaging; treatment; occupational health; case reports

2015;45:121-3.

Cerebral arterial gas embolism in a professional diver with a persistent foramen ovale

Wilson CM, Sayer MDJ

Patent foramen ovale (PFO); persistent foramen ovale; cerebral arterial gas embolism (CAGE); inner ear; hyperbaric oxygen therapy; transcatheter closure; case reports

2015;45(2):124-126.

Diving and percutaneous closure of persistent (patent) foramen ovale

Martinez-Quintana E, Gopar-Gopar S, Rodriguez-González F

Scuba diving; persistent foramen ovale; transcatheter closure; side effects; case reports

2015;45(2):126-128.

## **JOINT POSITION STATEMENT ON PERSISTENT FORAMEN OVALE (PFO) AND DIVING**

South Pacific Underwater Medicine Society (SPUMS) and the United Kingdom Sports Diving Medical Committee (UKSDMC)

Smart D, Mitchell S, Wilmshurst P, Turner M, Banham N

2015;45(2):129-131.

Patent foramen ovale (PFO); persistent foramen ovale; fitness to dive; decompression illness; transcatheter closure; cardiovascular; health surveillance; medical society

## **CASE REPORTS**

Severe methaemoglobinaemia treated with adjunctive hyperbaric oxygenation

Lindenmann J, Fink-Neuboeck N, Schilcher G, Smolle-Juettner FM

Hyperbaric oxygen therapy; drugs; toxicity; hypoxia; neuroprotection; case reports

2015;45(2):132-134.

Immersion pulmonary oedema and Takotsubo cardiomyopathy

Ng A, Edmonds C

Diving incidents; echocardiography; immersion; pulmonary oedema; cardiovascular; case reports

2015;45(4):255-257.

## **SHORT COMMUNICATION**

Cerebrospinal fluid markers of central nervous system injury in decompression illness – a case-controlled pilot study

Shahim P, Arnell P, Kvarnström A, Rosén A, Bremell D, Hagberg L, Blennow K, Zetterberg H

Decompression sickness; central nervous system; injuries; inflammation; biomarkers

2015;45(4):240-243.

Comparison of Australian and New Zealand referral rates for hyperbaric oxygen in oro-facial osteoradionecrosis: evidence-based, funding constraint or clinician whim?

Sames C, Gorman DF, Sandiford P, Zhou L

Hyperbaric oxygen therapy; osteoradionecrosis; evidence; survey

2015;45(4):244-246.

## **THE WORLD AS IT IS**

British Sub-Aqua Club (BSAC) diving incidents report 2014

Compiled by Brian Cummings, Diving Incidents Advisor

<[www.bsac.com/core/core\\_picker/download.asp?id=26137&filetitle=Diving+Incident+Report+2014](http://www.bsac.com/core/core_picker/download.asp?id=26137&filetitle=Diving+Incident+Report+2014)>

Wislon C

2015;45(4):259-260.

## **THE WORLD AS IT MIGHT (POSSIBLY) BE**

Correlation of wavelength and amplitude of visual peripheral stimuli with decompression sickness in ‘teckies’: a triple-blinded, power-analysed study

Sieber A, Bløgg L, Eftedal I, Møllerløkken A

General interest

2015;45(4):269.

## **TECHNICAL REPORTS**

Performance of the Baxter Infusor LV10 under hyperbaric conditions

Lewis I, Smart D, Brown B, Baine C

Hyperbaric oxygen therapy; drugs; treatment; equipment; elastomers

2015;45(1):37-41.

A CT-, PET- and MR-imaging-compatible hyperbaric pressure chamber for baromedical research

Hansen K, Hansen ESS, Tolbod LP, Kristensen MC, Ringgaard S, Brubakk AO, Pedersen M

Pressure chambers; radiological imaging; pressure; animal model; equipment; hyperbaric research

2015;45(4):247-254.

## **PHYSICIANS AND CRITICAL CARE IN HYPERBARIC CHAMBERS**

*Papers from the European Underwater and Baromedical Society (EUBS) special session at the 40th Annual Scientific Meeting in Wiesbaden, Germany, September 2014*

Hyperbaric oxygen therapy for intensive care patients: indications and risk/benefit balance

Mathieu D, Ratzenhofer-Komenda B, Kot J

Hyperbaric oxygen treatment; intensive care medicine; standards; ECHM - European Committee for Hyperbaric Medicine; safety; hyperbaric facilities; patient monitoring; ventilators; training

2015;45(1):42-6.

Staffing and training issues in critical care hyperbaric medicine

Kot J

Hyperbaric oxygen treatment; intensive care medicine; education; training; qualifications; safety; review article

2015;45(1):47-50.

Hyperbaric intensive care technology and equipment

Millar IL

Hyperbaric oxygen therapy; intensive care medicine; hyperbaric facilities; safety; equipment; patient monitoring; ventilators; review article  
2015;45(1):50-6.

A pro/con review comparing the use of mono- and multiplace hyperbaric chambers for critical care  
Lind F

Hyperbaric oxygen therapy; intensive care medicine; pressure chambers; safety; review article  
2015;45(1):56-60.

#### **REPRINTED FROM OTHER SOURCES**

The lifetimes of small arterial gas emboli, and their possible connection to inner ear decompression sickness  
JM Solano-Altamirano, S Goldman

Models, bubbles; inner ear; decompression sickness; arterial gas embolism; reprinted from  
2015;45(1):29.

#### **LETTERS TO THE EDITOR**

Diving injuries are (usually) no accident

Buzzacott P

Diving incidents; injuries; diving deaths; writing – medical; letters (to the Editor)  
2015;45(1):61.

Don't dive cold when you don't have to

Clarke JR, Moon RE, Chimiak JM, Stinton R, Van Hoesen KB, Lang MA

Hypothermia; decompression sickness; letters (to the Editor)

2015;45(1):62.

Inner-ear decompression sickness: 'hubblebubble' without brain trouble?

Tremolizzo L, Malpieri M, Ferrarese C, Appollonio I

Inner ear; decompression illness; persistent foramen ovale; case reports; letter (to the Editor)

2015;45(2):135-6.

Grommets in HBOT patients: GA vs LA, unanswered questions

Gibbs CR, Commons KH

Ear barotrauma; middle ear; ENT; hyperbaric oxygen therapy; letters (to the Editor)

2015;45(2):136.

On diver thermal status and susceptibility to decompression sickness

Gerth WA

Decompression sickness; hypothermia; risk factors; letters (to the Editor)

2015;45(3):208.

Re: Don't dive cold when you don't have to

Pollock NW

Decompression sickness; hypothermia; risk factors; letters (to the Editor)

2015;45(3):209.

Management of severe spinal cord injury following hyperbaric exposure

Mathew B, Laden G

Decompression illness; central nervous system; cerebral blood flow; neuroprotection; letters (to the Editor)

2015;45(3):210.

Cutis marmorata and cerebral arterial gas embolism

Wilmshurst PT

Cerebral arterial gas embolism; persistent foramen ovale; skin; decompression illness; letters (to the Editor)

2015;45(4):261.

Reply

Kemper T, Weenink R, van Hulst R

Cerebral arterial gas embolism; persistent foramen ovale; skin; decompression illness; letters (to the Editor)

2015;45(4):262.

#### **CORRECTION**

Correction and response to: Grommets in HBOT patients: GA vs. LA, unanswered questions

Lamprell L, Vangaveti V, Young D, Orton J

Corrections; ear barotrauma; middle ear; ENT; hyperbaric oxygen therapy

2015;45(2):137-138.

## **ERRATUM**

Field validation of Tasmania's aquaculture industry bounce-diving schedules using Doppler analysis of decompression stress

Smart DR, Van den Broek C, Nishi R, Cooper PD, Eastman D  
2015;45(4):270.

## **BOOK AND JOURNAL REVIEWS**

Hyperbaric oxygen therapy indications, 13th edition

Muth C-M

Hyperbaric oxygen therapy; medical conditions and problems; medical society; textbook; book reviews  
2015;45(1):63-4.

Deep into deco: the diver's decompression textbook

van der Hulst G, Edward R

Decompression; decompression tables; computers - diving; models; book reviews  
2015;45(4):263.

The Science of diving

Camporesi E, Bosco G

Diving research; decompression sickness; decompression; endothelium; persistent foramen ovale; narcosis; book reviews

2015;45(4):264-265.

Oxygen and the brain; the journey of our life time

Brubakk AO

Hyperbaric oxygen; central nervous system; decompression sickness; multiple sclerosis; injuries; book reviews  
2015;45(4):266.

## **CONTINUING PROFESSIONAL DEVELOPMENT**

Drink, drugs and diving

Penny C

Diving; scuba; alcohol; drugs; fitness to dive; epilepsy; MOPS (maintenance of professional standards)  
2015;45(1):64-5.

Persistent (patent) foramen ovale and diving

Germonpré P

Patent Foramen Ovale (PFO); persistent foramen ovale; decompression illness; risk factors  
2015;45(2):138-9.

Marine envenomation

Neil Banham

Marine animals; envenomation; jellyfish; clinical toxicology; toxins; MOPS (maintenance of professional standards)

2015;45(3):211.

Women in diving

Szkurlat J

Women; diving; decompression illness; pregnancy; implantable devices; risk factors; MOPS (maintenance of professional standards)

2015;45(4):267-268.

## **CRITICAL APPRAISAL**

A single hyperbaric oxygen exposure preoperatively may modulate inflammatory markers and clinical complications following pancreatodudenectomy

Bennett M

Gastro-intestinal tract; surgery; hyperbaric oxygen; preconditioning; biomarkers; outcome; critical appraisal  
2015;45(4):258.

## **SPUMS NOTICES and NEWS**

SPUMS 44th Annual Scientific Meeting 2015

Palau Royal Resort, Malakai, Palau, Micronesia, 16-23 May 2015

2015;45(1):67.

Notice of SPUMS Annual General Meeting

Palau Royal Resort, Koror, Republic of Palau 1700 h, Thursday 21 May, 2015

2015;45(1):67.

SPUMS 45<sup>th</sup> Annual Scientific Meeting 2016

Fiji Intercontinental Golf & Spa, Fiji, 15–21 May 2016  
2015;45(4):64.

SPUMS Diploma in Diving and Hyperbaric Medicine  
Wilkinson D

Qualifications; underwater medicine; hyperbaric oxygen; research; medical society  
2015;45(1):68.

#### **EUBS NOTICES and NEWS**

41st EUBS Annual Scientific Meeting 2015, Second Announcement  
The Academic Medical Center (AMC), Amsterdam, 19–22 August  
2015;45(1):69.

42nd EUBS Annual Scientific Meeting 2016, Preliminary notice  
Geneva, Switzerland, 13–16 August  
2015;45(3):215.

Ultrasound 2015 Meeting report  
2015;45(4):273.

41st EUBS ASM – Amsterdam 2015  
Sailing among the history of hyperbaric medicine  
Desola J

Medical society; history; meetings; general interest  
2015;45(4):274.

#### **OBITUARY**

George B Hart, MD, FACS  
29 January 1930 – 27 September 2014

Obituary; hyperbaric medicine; diving; medicine; general interest  
2015;45(1):66.