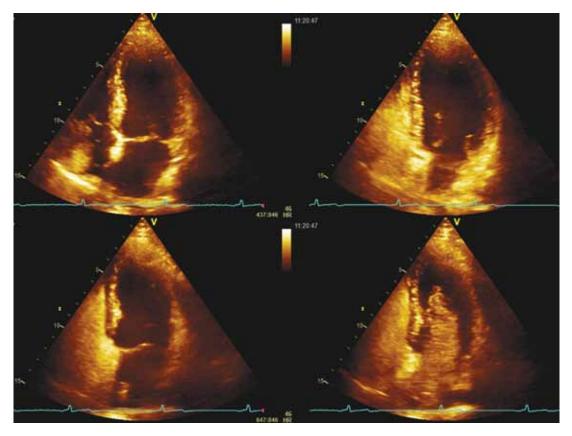
# Diving and Hyperbaric Medicine

The Journal of the South Pacific Underwater Medicine Society and the European Underwater and Baromedical Society



Volume 45 No. 2 June 2015





**Special issue** 

## Persistent foramen ovale and decompression illness

First-aid  $O_2$  devices for injured divers: which and how much  $O_2$ ? Are skin bends due to brain injury in decompression illness? Does alcohol protect rats from decompression sickness? Survival from 'poppers' and alcohol: a role for HBOT?

### **CONTENTS**

#### Diving and Hyperbaric Medicine Volume 45 No. 2 June 2015

#### **Editorial**

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

#### **Original articles**

75 A rat model of chronic moderate alcohol consumption and risk of decompression sickness

Peter Buzzacott, Aleksandra Mazur, Qiong Wang, Kate Lambrechts, Michael Theron, François Guerrero

79 A comparison of the tissue oxygenation achieved using different oxygen delivery devices and flow rates
Denise F Blake, Philip Naidoo, Lawrence H Brown, Derelle Young, John Linnmann

84 Cutis marmorata in decompression illness may be cerebrally mediated: a novel hypothesis on the aetiology of cutis marmorata

Tom CPM Kemper, Rienk Rienks, Pieter-Jan AM van Ooij, Rob A van Hulst

89 Comparison of the size of persistent foramen ovale and atrial septal defects in divers with shunt-related decompression illness and in the general population

**illness and in the general population**Peter T Wilmshurst, W Lindsay Morrison, Kevin P Walsh, Matthew J Pearson and Simon Nightingale

**94** An audit of persistent foramen ovale closure in 105 divers Alex Pearman, Luc Bugeja, Martin Nelson, Gergely V Szantho, Mark S Turner

#### **Review articles**

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

Peter T Wilmshurst

105 Pathophysiology of inner ear decompression sickness: potential role of the persistent foramen ovale
Simon J Mitchell, David J Doolette

111 Assessing potential divers with a history of congenital heart disease

Mark S Turner

#### PFO and ASD case reports

116 Delayed blood-brain barrier disruption after shallow-water diving demonstrated by magnetic resonance imaging Amir Hadanny, Sigal Tal, Gregori Fishlev, Yair Bechor, Shai Efrati

121 Atrial septal defect: a coincidental finding on a screening medical

Elizabeth J Elliott

124 Cerebral arterial gas embolism in a professional diver with a persistent foramen ovale
Colin M Wilson, Martin DJ Sayer

126 Diving and percutaneous closure of persistent (patent) foramen ovale

Efrén Martinez-Quintana, Silvia Gopar-Gopar, Fayna Rodriguez-González

#### Persistent foramen ovale and diving

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

David Smart, Simon Mitchell, Peter Wilmshurst, Mark Turner and Neil Banham

#### Other case reports

132 Severe methaemoglobinaemia treated with adjunctive hyperbaric oxygenation
Joerg Lindenmann, Nicole Fink-Neuboeck, Gernot Schilcher and Freyja M Smolle-Juettner

#### Letters to the Editor

135 Inner-ear decompression sickness: 'hubble-bubble' without brain trouble?

Lucio Tremolizzo, Massimo Malpieri Carlo Ferrarese, Ildebrando Appollonio

136 Grommets in HBOT patients: GA vs LA, unanswered questions Clinton R Gibbs, Katherine H Commons

#### Correction

137 Correction and response to: Grommets in HBOT patients: GA vs. LA, unanswered questions Laura Lamprell, Venkat Vangaveti, Derelle Young, John Orton

# Continuing professional development

138 Persistent (patent) foramen ovale and diving Peter Germonpré

140 Erratum

#### SPUMS notices and news

140 ANZ Hyperbaric Medicine Group Introductory Course

140 SPUMS Annual Scientific Meeting 2016 Preliminary notice

140 Certificate in Diving and Hyperbaric Medicine ANZ College of Anaesthetists

141 SPUMS Diploma in Diving and Hyperbaric Medicine

#### **EUBS** notices and news

- 142 41st EUBS Annual Scientific Meeting 2015
- 142 EUBS President's message Costantino Balestra
- 142 Important message: EUBS membership dues
- 142 EUBS Elections
- 143 Courses and meetings

Diving and Hyperbaric Medicine is indexed on MEDLINE, SciSearch® and Embase/Scopus