Acute pulmonary oedema in a hypertensive snorkel swimmer

F Michael Davis

Key words
Immersion, pulmonary oedema, snorkelling, beta blockade, case reports

Abstract

(Davis FM. Acute pulmonary oedema in a hypertensive snorkel swimmer. SPUMS J. 2005; 35: 209-10.)
A case is reported of a 52-year-old woman with known hypertension on medication, who developed acute pulmonary oedema whilst snorkelling in tropical waters. Subsequent management and investigations are described. No underlying myocardial disease was identified. This is presumed to be a case of immersion pulmonary oedema, contributed to by her medications, which included ß-blockers. Subsequently, a rare dopamine-secreting carotid body tumour, which was likely to have contributed to this event, was diagnosed and successfully resected.

Introduction

The sudden onset of acute left ventricular failure whilst swimming, snorkelling or scuba diving may have a variety of causes. Whilst myocardial ischaemia, particularly in the face of pre-existing cardiovascular pathology in the middle-aged or elderly, would be the first consideration in many cases, acute pulmonary oedema has also been reported in young, healthy individuals.1–4 An apparent case of immersion pulmonary oedema in a snorkeller occurring in warm tropical waters is reported here.

Case report

An active, mildly obese 52-year-old female anaesthetist was vacationing in Queensland. She was a known hypertensive on nadolol 50 mg tds and diltiazem 280 mg daily, with only modest control. On the third day of a visit to an island on the Great Barrier Reef, she went snorkelling in calm, sunny conditions. She had snorkelled before, but not for some years, and was inexperienced. After about three-quarters of an hour she noticed some difficulty making headway, and she told her companion that she would swim to shore, about 200 m away, with the tide assisting her. She describes what happened as follows.

"I found my legs were very weak, which was worrying, but what started to preoccupy me was the presence of a lot of bubbly fluid in my chest. I thought I must have aspirated some sea water, but knew I hadn’t. It took a very long time to get out of the water, and I was very breathless and bluer than I have ever seen anyone. Pink frothy stuff was coming out of my mouth. I had no chest pain...but felt weak."

This is a resort island with a well-stocked first-aid clinic and a nurse. Unfortunately, the newly qualified nurse had no experience in acute medicine, she had never put in an intravenous (IV) line and she started to cry. I reassured her, and we obtained permission from a hospital junior doctor on the mainland to use morphine and frusemide, but the island’s management would not allow me to put in my own IV. Half an hour later, by which time I was cross and exhausted, an elderly neurologist appeared who had not put in an IV for 25 years. I wasn’t surprised, but welcomed him (through the oxygen mask and pink frothy sputum) with “Sit down and supervise this” and proceeded to insert my own IV. Morphine and frusemide were administered and I began to feel much better."

The snorkeller’s condition having improved considerably, and after some discussion, the decision was made to evacuate her by boat to the mainland the following morning. The morning after that she was seen by a cardiologist and immediately admitted to the coronary care unit of a local private hospital. On admission, she appeared fatigued and dyspnoeic at rest. There were crepitations at both lung bases, a soft third heart sound and oxygen saturation on air was 93%. Echocardiography showed an area of infero-lateral left ventricular wall hypokinesis and mild mitral regurgitation. The only abnormality on electrocardiogram was peaked T-waves in the lateral chest leads.

Whilst in hospital, she had two episodes of anginal-type pain and a few brief episodes of palpitations, but cardiac iso-enzymes were not elevated, excluding an acute myocardial infarction, which had been the presumed diagnosis. She made steady progress and was discharged on the sixth day on aspirin, nadolol, diltiazem, frusemide and an ACE inhibitor. At this time, she was able to walk for more than an hour and a half without dyspnoea, and had no orthopnoea or palpitations. Blood pressure was normal and a 3/6 pan-systolic murmur was noted. The attending cardiologist stated in the discharge letter “my impression is that there are certain pieces missing from this puzzle.”

Echocardiography two weeks later showed a left ventricular ejection fraction of 87% with no evidence of regional dysfunction or mitral regurgitation, the only abnormality being a mildly increased left ventricular mass index, consistent with her hypertension. A Bruce protocol exercise...
study was normal, with a heart rate of 89% of predicted maximum being achieved. Coronary angiography showed a dominant left main coronary artery of normal calibre and there were no significant flow-limiting coronary artery lesions.

However, the story does not end here. This woman’s labile hypertension persisted, and a right submandibular lump was noted. Further investigations revealed elevated dopamine levels to nine times above normal. Nine months after the immersion incident, she underwent resection of a non-malignant right vagus paraganglionicoma, confirmed to be dopamine secreting. Several cranial nerves were sacrificed during surgery and she underwent a prolonged recovery. Six years later she remains well, still in full-time anaesthesia practice.

Discussion

Immersion pulmonary oedema was first reported by Wilmshurst in eleven, middle-aged, hypertensive scuba divers in cold water.1 The only feature of note in these divers was the development of a high peripheral vascular resistance response to forearm cold water (less than 12°C) immersion. Subsequently, similar episodes in healthy young scuba divers, fin swimmers during long surface swims and in recreational snorkellers have been documented.2–4 Several factors, such as overhydration, ischaemic heart disease and some drugs, particularly β-blockers, are believed to be contributory. However, it may arise in an otherwise healthy individual with no apparent risk factors.

The pathophysiology of immersion-induced pulmonary oedema is not fully understood. Immersion and cold exposure cause peripheral vasoconstriction, with an increase in cardiac pre-load and after-load as blood volume is centralised and peripheral resistance increases. There is an increase in mean pulmonary artery pressure and pulmonary capillary wedge pressure. The engorgement of the pulmonary blood vessels may predispose to capillary stress failure. A more detailed discussion of the pathophysiology and the differential diagnosis of immersion pulmonary oedema has been presented by Mitchell.5

Immersion pulmonary oedema was not considered at any stage in the differential diagnosis in this patient, though the cardiologist concerned, who had no diving medical training or experience, clearly felt he was missing a key piece of the jigsaw. This appears to be a classic case, with the associated risk factors of hypertensive cardiovascular disease and use of β-blocker medication in an inexperienced snorkeller, although it is very uncommon for this to occur in warm tropical waters.

Cases of Irukandji envenomation with chest pain, particularly if pulmonary oedema develops, may be misdiagnosed as acute myocardial infarction with developing heart failure.6 This may be reinforced by a history of swimming (exertion), especially if the history of a mild sting is not elicited, or is forgotten by the victim. Elevated levels of troponins and/or CK-MB are taken as a measure of cardiac damage. In this patient cardiac iso-enzymes were never elevated, and Irukandji syndrome cannot be completely excluded from the differential diagnosis as she was snorkelling within the known geographical distribution of Carukia barnesi. However, the general absence of pain during the early post-immersion period makes this very unlikely.

This case of acute immersion pulmonary oedema is unusual in that a contributory pathology was subsequently identified.

Acknowledgments

Permission by the patient to report details of her experience and subsequent clinical course is greatly appreciated.

References


Michael Davis, MA, FRCA, FANZCA, MD(Otago), is Associate Professor of Medicine in the Faculty of Medicine and Health Sciences, The University of Auckland, and Medical Director of the Hyperbaric Medicine Unit, Christchurch Hospital, New Zealand.

Address for correspondence:
Hyperbaric Medicine Unit, Christchurch Hospital, Private Bag 4710, Christchurch, New Zealand
Phone: +64-(0)3-364-0045
Fax: +64-(0)3-364-0187
E-mail: <michael.davis@auckland.ac.nz>
SPUMS notices and news

South Pacific Underwater Medicine Society Diploma of Diving and Hyperbaric Medicine

Requirements for candidates

In order for the Diploma of Diving and Hyperbaric Medicine to be awarded by the Society, the candidate must comply with the following conditions:

1. The candidate must be medically qualified, and be a financial member of the Society of at least two years’ standing.
2. The candidate must supply evidence of satisfactory completion of an examined two-week full-time course in Diving and Hyperbaric Medicine at an approved Hyperbaric Medicine Unit.
3. The candidate must have completed the equivalent (as determined by the Education Officer) of at least six months’ full-time clinical training in an approved Hyperbaric Medicine Unit.
4. The candidate must submit a written proposal for research in a relevant area of underwater or hyperbaric medicine, and in a standard format, for approval by the Academic Board before commencing their research project.
5. The candidate must produce, to the satisfaction of the Academic Board, a written report on the approved research project, in the form of a scientific paper suitable for publication.

Additional information

The candidate must contact the Education Officer to advise of their intended candidacy, seek approval of their courses in Diving and Hyperbaric Medicine and training time in the intended Hyperbaric Medicine Unit, discuss the proposed subject matter of their research, and obtain instructions before submitting any written material or commencing a research project.

All research reports must clearly test a hypothesis. Original basic or clinical research is acceptable. Case series reports may be acceptable if thoroughly documented, subject to quantitative analysis, and the subject is extensively researched and discussed in detail. Reports of a single case are insufficient. Review articles may be acceptable if the world literature is thoroughly analysed and discussed, and the subject has not recently been similarly reviewed. Previously published material will not be considered.

It is expected that all research will be conducted in accordance with the joint NHMRC/AVCC statement and guidelines on research practice (available at http://www.health.gov.au/nhmrc/research/general/nhmrcavc.htm) or the equivalent requirement of the country in which the research is conducted. All research involving humans or animals must be accompanied by documented evidence of approval by an appropriate research ethics committee. It is expected that the research project and the written report will be primarily the work of the candidate.

The Academic Board reserves the right to modify any of these requirements from time to time. The Academic Board consists of:
Dr Chris Acott, Education Officer, Professor Des Gorman and Associate Professor Mike Davis.

All enquiries should be addressed to the Education Officer:
Dr Chris Acott,
30 Park Avenue
Rosslyn Park
South Australia 5072
Australia
E-mail: <cacott@optusnet.com.au>

Key words
Qualifications, underwater medicine, hyperbaric oxygen, research

Minutes of the SPUMS Committee Meeting held in Melbourne on 31 July 2005

Opened: 1013 hr
Present: Drs C Acott (President), R Walker (Immediate Past-President), S Sharkey (Secretary), A Patterson (Treasurer), G Williams (Public Officer and Committee Member), D Vote (Committee Member)

1 Acceptance of previous minutes
1.1 Committee Meeting held Sunday 10 April 2005 (teleconference). Proposed Dr Acott, seconded Dr Walker, carried.
1.2 Informal Committee Meeting held Sunday 22 May 2005 (teleconference). Proposed Dr Walker, seconded Dr Vote, carried.

2 Matters arising from the minutes not covered in other agenda items
2.1 Administrator functions
The details of the contractual agreement/statement of works with Mr Goble need to be reviewed. The new website will impact on the required services. It was agreed that a formal statement of works needs to be established with regard to the services provided by the Administrator. The functions of the Administrator, Secretary and Treasurer will all need to be documented formally in the Statement of Purposes and Rules, but this should not delay the approval of the current edition being reviewed at this meeting. ACTION: Dr Acott to discuss the functions
with Mr Goble. Dr Sharkey to investigate legal requirements for formalising this contractual relationship.

2.2 Election terms for Committee
The correct meaning of the three-year term as reflected in the Statement of Purposes and Rules was discussed. It was generally agreed that the wording was appropriate. Staggered appointments of committee members were proposed by Dr Acott – it was agreed that this would be ideal and should be managed as the situation requires in order to avoid loss of continuity within the Committee. ACTION: NFA.

2.3 2004 ASM Noumea final figures
It was not established whether the refunds to those who departed early have been reflected in the P&L statement for this meeting. ACTION: Dr Patterson to review.

2.4 2005 ASM
The travel agents provided a donation towards the gala dinner function noting the favourable exchange rate. Other issues relating to final figures are discussed at the Treasurer’s report.

2.5 Letter of complaint
Letter from a patient regarding inappropriate behaviour of a diving doctor. Further to previous minutes medicolegal advice has been obtained by Dr Walker. On the basis of this advice the doctor was contacted by Dr Walker and the matter discussed. Further action is pending the outcome of action by the Medical Board.

3 Annual Scientific Meetings
3.1 2006 ASM. Pearl South Pacific Resort – Pacific Harbour, Fiji, 3–10 June
The Convenor (Dr Patterson) reported that the inspection has been completed. Resort is currently undergoing an upgrade which will be completed prior to the conference. Proposed programme: Welcome cocktail party 4 June; ASM 5–9 June; AGM Wednesday 7 June; Gala Dinner Friday 9 June. Child friendly. Proposed costings and inclusions were provided by Allways and reviewed by the Committee. Prices are considered reasonable. Registration fee yet to be determined.

The theme of the conference was discussed and agreed to be revision of basics principles with a series of workshops (including airway skills/equipment) and reviews of fitness-to-dive issues (asthma, diabetes, PFO, reverse dive profiles, breath-hold diving, pacemakers, immersion physiology, obesity, evolving profiles, safety). Title: “Something Old, Something New”. CME points from RACGP and ANZCA being pursued.

3.2 2007 ASM
Proposed in New Zealand. Convenor Dr Davis.

3.3 2008 ASM
PNG has been suggested. Convenor Dr Acott, “Diving in the Tropics”.

4 Treasurer’s report
4.1 Financial statement attached. The Committee agreed financial position was healthy.

4.2 Treasurer reinforced the requirement for claims for reimbursement to be submitted in a timely manner and with complete and appropriate supporting documentation in order that they can be allocated transparently, appropriately and to the correct financial year. ACTION: All committee members.

4.3 The financial reports from the 2005 ASM contain inconsistencies that will require further clarification from the Convenor (Dr Meehan). ACTION: Dr Patterson to write to Dr Meehan and request clarification/justification of accounts.

4.4 The process with respect of reconciling bank records for deposits and credit-card payments needs review. The current process is open to frequent error and is cumbersome and time-consuming for the Treasurer. It is anticipated that the SPUMS website will assist in simplifying this process.

4.5 Inventory of property holding of SPUMS is required. There are several items that are now obsolete and should be available for purchase by the members. All equipment held by the past Secretary and the ASM-related equipment held by the Administrator needs to be sent to Sydney. ACTION: Dr Patterson/Sharkey.

5 Journal report (received by e-mail from Dr Davis)

5.1 Software upgrade request
PageMaker corrupted. Approval for upgrade agreed by the Committee. ACTION: Dr Davis.

5.2 Best Books free advertising space approved by the Committee. ACTION: Dr Davis.

5.3 Ross Wine letter
It was noted in correspondence from Dr Davis that no formal response from the President had been given to Ross Wine in relation to standards of medicals in Queensland. Dr Walker had previously considered the issue and concluded that it was not necessary for her to provide a response but will discuss the issue further with Dr Davis. ACTION: Dr Walker.

5.4 Remuneration of Editor was considered by the Committee. The Committee agreed to increase remuneration to NZ$1,400 per month with effect from January 2006.

5.5 Contracting of editorial services
At the request of Dr Davis it was agreed by the Committee that the services of the current Editorial Assistant (Sarah Webb) were valuable and would continue at the suggested rate of NZ$31 per hour.

5.6 It was noted that the office transition had been completed and the Treasurer confirmed that the accounts of termination payment had been received and were satisfactory.

5.7 Database of papers has been created but not completed. For review by the Committee at the next meeting.

5.8 Ongoing difficulties with slowness of contributions to the Journal was noted and discussed.

5.9 Name change for the Journal will commence in 2006 with volume 36. Embase consequences yet to be determined.
5.10 CD of presentation for 2005 meeting was blank. Dr Acott has advised that Dr Bennett is able to provide electronic copies of the presentations which will be forwarded to Dr Davis.

5.11 Deadline for the ASM brochure for Snap Printing is Monday 12 September.

5.12 EUBS/SPUMS journal amalgamation
E-mailed proposal from Dr Mueller was discussed. The Committee considered that the proposal was not in the best interests of SPUMS based on the detail provided to date. A more detailed proposal would need to be considered. It was suggested that EUBS could consider a representative at the next SPUMS ASM and also that some other form of link between the societies may be of some benefit. ACTION: Dr Acott will formally respond to Dr Mueller.

6 Education Officer’s report
Four (4) Diplomas have been awarded. Discussion ensued regarding the continuing frustration from Diploma candidates seeking to get their papers published in journals other than the SPUMS Journal. The need to encourage submissions for the SPUMS Journal was reinforced to committee members.

7 Correspondence
7.1 E-mail from Dr Davis reinforced recent communication regarding the need for amendments to the Purposes and Rules to be promulgated through one process via the Secretary. This was agreed.

7.2 Letter from previous Secretary (Dr Meehan) Issues have been dealt with previously and will be communicated directly by Dr Sharkey. ACTION: Dr Sharkey.

7.3 Letter forwarded by Dr Meehan from Queensland Police requesting report for inquest into a diving death. Dr Acott agreed to take on this issue and will respond to the letter. ACTION: Dr Acott.

8 Other business
8.1 SPUMS/ EUBS journals combining Refer para 5.12.

8.2 Website update
An update on progress of the new SPUMS website was provided by Dr Walker. The delayed June issue of the SPUMS Journal will provide information for members regarding the website. The website is being established with SQUIZ. Features include online database, online membership and registration transaction facilities, secure gateway, online amendment by members, electronic membership reporting, regular updating of information, bulk e-mailing of correspondence, search engine, secure members’ area, e-journal capable. Establishing the secure transaction facility has been a rate-limiting step recently and is now complete. The website will be able to be managed by SPUMS (long-term delegation of this function to be resolved, Dr Walker will manage in the initial phase). Expect to go ‘live’ in the next few weeks.

8.3 SPUMS Purposes and Rules
The final draft version was reviewed by committee meetings. It was agreed that further updates will be required in the future. ACTION: Dr Williams will forward typographical errors to Dr Davis. Dr Walker to add to the website.

8.4 Consumer affairs
ACTION: Dr Williams to seek written confirmation of approval for short delay of AGM outside the rules. Dr Williams to forward the revised approved Statement of Purposes and Rules to Dr Acott.

8.5 Status of overseas representatives
It was agreed that due to inactive nature of their involvement in recent years their positions should be deleted from the Journal unless otherwise requested. International involvement is gained through other means in the Society. ACTION: Dr Sharkey to notify Dr Davis of request to remove names.

8.6 Continued contracting of Editorial Assistant Refer para 5.5.

8.7 Remuneration of SPUMS Journal Editor Refer para 5.4.

8.8 Diplomates database
Dr Acott has a list of Diploma holders. It was noted that this should be on the membership database.

8.9 New membership categories
8.9.1 Incentives for recruitment of membership were discussed. A proposal to offer new members two years’ membership for one year’s annual fee was suggested if they attended that year’s ASM. It was generally agreed that this proposal had merit and did not conflict with Society Rules. ACTION: Dr Patterson.

8.9.2 Retired membership
A couple of members had written requesting consideration of retired fees. It has been agreed that it is appropriate for retired doctors to pay an Associate Membership fee. Additional consideration was requested for retired members to pay reduced ASM fees and retain voting rights. Reduced ASM fees were not considered appropriate given the costing structure for the ASM. This issue would require a change to the Society’s Statement of Purposes and Rules and will need to be considered at the next AGM. ACTION: Dr Walker to draft proposal for AGM.

8.9.3 Student membership
Similar consideration was given to a separate category for students. It was concluded that students should be Associate Members.

8.10 SPUMS liability insurance
This has been renewed and is considered essential by the Committee.

8.11 Issues of secretarial handover
Covered in other agenda items.

8.12 Australian Standards representative for AS 4005.1
It was noted that a responsibility of the previous Secretary was to act as SPUMS representative on the AS 4005.1
Committee. It was agreed that this role is most appropriately performed by a member of the Committee who naturally has more complete visibility of current SPUMS policy. ACTION: Dr Sharkey to seek advice from Dr Meehan re when the next meeting is due and to facilitate the nomination of an appropriate representative on this committee for SPUMS.

9 Next meeting
Teleconference, Sunday 9 October 2005, 0900 hr (Sydney time).

Closed: 1530 hr

Minutes of the combined AGM of the Diving and Hyperbaric Medicine Special Interest Group and the ANZHMG teleconference, Thursday 18 August 2005

Opened: 0900 hr

1 Present
Margaret Walker (Chair, Tas), Bob Wong (WA), David Wilkinson (SA), David Smart (Tas), Barbara Trytko (NSW), Bob Long (Qld), Brian Spain (NT), Mike Bennett (NSW), Mike Davis (New Zealand), Glen Hawkins (NSW), Ian Millar (Vic), Heather McDonald (New Zealand)
In attendance: Ms Juliette Mullumby

2 Apologies
Harry Oxer, Roslyn Lloyd-Williams, Mark Fajgman, Ian Seppelt, David Cooper, Ian Unsworth

3 Minutes of 2004 Annual General Meeting
Recommendation by Drs M Davis and B Trytko that the minutes be accepted as a true and accurate record of the meeting. Carried.

4 Business arising
It was noted that matters arising from the previous minutes would all be covered on the current agenda.

5 Address by Chair of ANZHMG
Dr D Smart noted that it had been a relatively politics-free year for the ANZHMG. He noted that following the last AGM, the group had spoken to a senior advisor in the Health Department which resulted in the extended funding of Medicare item 13015 for a further three years under section 3C.
Dr B Spain joined the meeting at this point.
Dr Smart reported that the extended funding would expire on 31 October 2007 by which time a report on the Problem Wound Study would need to be available. Dr Smart urged all units to contribute to the study and highlighted that contributing even a small number of cases helped to ensure that it was a comprehensive study of Australian and New Zealand hyperbaric units.
Dr Bob Long joined the meeting at this point.
Dr Smart noted that the ANZHMG will continue to undertake a medico-political role on behalf of hyperbaric units and to represent Directors of Units in Australia and New Zealand.

6 Timing of AGM
The Chair noted that in 2004 the SIG and ANZHMG held its first combined Annual General Meeting.
Dr I Millar believed that it was incredibly important to have separation between the standards and the political group. He suggested that visible separation through individual AGMs was important in facilitating this separation.
From 2006 it was agreed to hold separate AGMs for ANZHMG and the SIG but to hold both during the HTNA Meeting.
Dr B Trytko suggested forwarding registration brochures for future HTNA meetings to the SIG membership to increase the numbers of anaesthetists in attendance.

It was determined to increase communication between the SIG and its membership by producing an electronic newsletter twice a year. The Chair noted that a SIG report has been placed in the SPUMS Journal and it was agreed to also place the article in the ANZCA Bulletin.

7 MSAC Report
There was nothing highlighted for discussion under this item.

8 Hyperbaric problem wound database
Dr G Hawkins noted that he had written a database to hold the required information and offered to share it with other departments if requested. He expressed his wish to gather the data collated so far in order to compile an interim report.
Dr M Davis reported that New Zealand units would be unable to forward the collated data until the completion of the twelve months as that was a requirement set out in the ethics approval given to the project.
Dr H McDonald noted that Oxygen Therapy Ltd, Auckland, have included drop-down tables in their database and a security option that ensures all fields are completed before the record is saved or can be exited.
All units were encouraged to continue collating data in order to have a comprehensive databank.

9 HORTIS
The Chair reported that at Royal Hobart Hospital they were about to recruit their first patient to this trial.
Dr Long indicated that they had been inundated with calls about participation in the trial following an advertisement placed in the local paper.

10 ANZHMG/SIG list of indications for HBO
Dr Long reported that he is currently compiling a database and seeking ethics approval for a prospective trial of hyperbaric oxygen in the treatment of femoral head necrosis.
It was agreed to put a statement in the *SPUMS Journal* to the effect that there were no changes to the previously published list and referring in full to that publication.

**11 Introductory Course in Diving and Hyperbaric Medicine**

Discussion covered the possibility of moving the administration of the course to the College with the control of the course remaining with the ANZHMG. It was noted that the College does not allow proceeds from a course to pay for the facilitators to travel to the course. It was therefore agreed not to request the College to undertake the administration of the course. Dr M Bennett stated that he was happy to continue to run the course through the Prince of Wales Hospital, with the support of visiting lecturers from other states.

Dr M Bennett noted that the course would be held in the first two weeks of March in 2006. Dr Hawkins undertook to send an advertisement of the course to SPUMS for inclusion in their September edition.

**12 Address by Chair of SIG**

The Chair noted that the SIG had 171 registered members, which was considered particularly pleasing.

The Chair congratulated Dr Mike Davis on receiving the Charles W Schilling Award for his contribution of an outstanding nature to teaching, to the support of the goals of the Undersea and Hyperbaric Medical Society in educating the diving community and the public with communications about science and practice of diving medicine and related fields. She also recognised Dr David Smart who received the Craig Hoffman Award for significant contributions to diving safety at the recent Annual Scientific Meeting of the Undersea Hyperbaric Medicine Society. It was recognised that Drs Carl Edmonds, Peter McCartney and John Williamson have been awarded ANZCA Citations for their contributions to diving and hyperbaric medicine. Three facilities have now been accredited for training in diving and hyperbaric medicine and it was noted that two further facilities are currently undertaking the accreditation process.

It was noted that an annual fee for certificate holders of $100 was established but that no subscriptions have been sent out. Ms Mullumby undertook to follow this up with the College Finance Department.

Dr I Millar, who had been nominated by the SIG as an observer on the European Diving Technology Committee, reported that he had not received any reply to his nomination but that he had been invited to attend their meeting in Spain.

**13 SIG business**

The Chair noted that the SIG will be presenting a 90-minute session at the 2006 ANZCA ASM on non-diving conditions treated with hyperbaric medicine.

**14 ANZCA SIG Certificate**

It was reported by the Chair that the SIG had been asked by the Certificates Committee to discuss whether the prerequisite requirements for the Certificate needed to be reconsidered, particularly that of the SPUMS Diploma. It was considered inappropriate by the Certificates Committee to include a Diploma issued by another organisation as a prerequisite to a College Certificate without any College representation on the SPUMS Academic Board.

Those present acknowledged that a person should not be made to join one organisation in order to obtain a certificate from a different organisation. It was suggested that an alternative should be approved. A research project of a similar standard or approval of another diploma such as the one currently being developed in Auckland were considered possible alternatives.

There was general agreement that the College needed to have the ability to allow people to complete the requirements through its own administration system. It was agreed to allow a more open approach to meeting the prerequisites.

**Recommendation from the Chair that candidates be eligible to sit the ANZCA examination in Diving and Hyperbaric Medicine after 12 months’ full-time equivalent training in an approved unit. Carried.**

The Chair reported that ANZCA is in the process of seeking College representation on the SPUMS Academic Board. It was agreed that the Chair would write a letter to SPUMS outlining the reasons for the request for consideration at the SPUMS October meeting.

Dr M Bennett argued that the College should retain the SPUMS Diploma and noted that the current arrangements benefited both organisations enormously. He suggested that the representative role could be filled by one of the current anaesthetic representatives.

Dr B Trytko left the meeting at this point. It was agreed to consider this issue further once the SIG has heard back from SPUMS.

**15 ANZCA – SIG exams**

It was noted that this item had previously been discussed.

**16 ANZCA citations**

The Chair reported that one citation was in the approval process.

**17 Hyperbaric facility accreditation**

It was reported that Fremantle, Prince of Wales and Royal Hobart Hospitals had all been accredited. Other units who were thinking of applying for accreditation were encouraged to do so.

**18 Minimum qualification to conduct AS2299 diving medicals**

Dr M Davis reported that a refresher process is now being offered in New Zealand where there is no formal certification of doctors involved in diving medicals.

Dr D Wilkinson reported that the coroner in South Australia offered some directions via the Medical Board to all doctors with the strong recommendation that no diving medicals should be carried out by a doctor without some specialised training.
19 Australian Standards issue
It was highlighted that this issue would develop further with the decision to be made by the Recreational Committee and Occupational Diving Committee in September on whether Australia should recognise or align itself with the International Standards Organisation’s Standards on Recreational Diving.
It was noted that a Film and Photographic Occupational Divers Standard will be promulgated in the coming few months. A standard is being developed for Occupational Diving Supervisors.

20 SPUMS Journal
It was noted that the Journal was going along well. Dr Davis was congratulated on the improvements he had made to the publication.

21 Minimum data set
It was noted that this issue had been covered elsewhere during discussion.

22 HTNA issues
It was agreed that the promotion of this meeting needed to be communicated to the medical community earlier. It was suggested that in future the meeting should be scheduled to avoid the European meeting which is frequently held in the second or third week of September.

23 Other business
The Chair noted that the SIG would be organising a session at the ANZCA meeting.
Drs Smart and Wilkinson are to attend the HTNA AGM to facilitate communication between the two groups.
With no further business the Chair thanked those present for participating and closed the meeting.

Closed: 1050 hr
Dr David Wilkinson
Hon Secretary, ANZHMG
Dr Margaret Walker
Chair, D&HM SIG

Professor Des Gorman appointed Head of the School of Medicine of the University of Auckland

Professor Des Gorman has been appointed as Head of the School of Medicine (a position analogous to what many universities would call the Dean of Medicine) at the University of Auckland’s Faculty of Medical and Health Sciences, becoming in the process the first alumnus to head up one of the five schools the Faculty represents.

Des is of Ngapuhi descent and graduated with a BSc and MBChB from The University of Auckland in 1978, going on to complete his PhD at the University of Sydney while he was serving with the Royal Australian Navy. During this time he emerged as Dux of the Royal Navy Submarine School Officers’ Course and was named Royal Australian Navy Officer of the Year. During his time with the RAN he trained as a Clearance Diving Officer (US Navy equivalent – Master Diver).

Des has retained an active interest in the Hyperbaric Unit at the Royal Adelaide Hospital, which he established with the support of the National Safety Council of Australia 20 years ago. He is a consultant to that hospital, as he is to the Royal New Zealand Navy (RNZN), RAN, Royal Navy of Oman, and other government and industry organisations. On returning to New Zealand in 1989, Des was Director of Medical Services for the RNZN until 1995, at which time he joined the staff of the Faculty of Medical and Health Sciences, the University of Auckland, and from 2000 has held a professorial Chair in Medicine.

Professor Gorman was President of SPUMS from 1990 to 1996, and was the Society’s ASM Guest Speaker in 1986 and 2003. He has contributed regularly to the Society’s journal and is a member of the Academic Board.

During his academic career Professor Gorman has had 218 papers published internationally and has made 36 keynote presentations to major international conferences, most in his specialist field of diving and hyperbaric medicine. His drive and determination resulted in one of the first university-based academic qualifications in diving and hyperbaric medicine in the English-speaking world, with establishment in 2004 of the Postgraduate Diploma in Medical Science in this subject at the University of Auckland.

"It is a great thrill to be appointed to head up this school, which played such an important role in my career," Professor Gorman said. "I am delighted to have the opportunity to really make a difference where I call home, and to do this through helping some really excellent young people as they gain the grounding for their own medical careers."

The Society wishes Professor Gorman every success in his new position, which he took up in October.
The SPUMS Award for the best presentation by a member at the Hyperbaric Technicians and Nurses Association Annual Scientific Meeting in Melbourne, August 2005, was awarded to two recipients:

**Helen Mullins**, Department of Diving and Hyperbaric Medicine, Fremantle Hospital

A review of visual acuity changes in patients receiving more than 20 treatments

**Anne Sydes**, The Wesley Centre for Hyperbaric Medicine, Brisbane

A case series of pyoderma gangrenosum

Each received a book voucher.

---

**SPUMS Award for HTNA ASM Paper 2005**

The SPUMS Award for the best presentation by a member at the Hyperbaric Technicians and Nurses Association Annual Scientific Meeting in Melbourne, August 2005, was awarded to two recipients:

**Helen Mullins**, Department of Diving and Hyperbaric Medicine, Fremantle Hospital

A review of visual acuity changes in patients receiving more than 20 treatments

**Anne Sydes**, The Wesley Centre for Hyperbaric Medicine, Brisbane

A case series of pyoderma gangrenosum

Each received a book voucher.

---

**SPUMS diplomates 2005**

The following diploma theses have recently been accepted:

**Stephanie McInnes**, Department of Diving and Hyperbaric Medicine, The Prince of Wales Hospital, Sydney

The incidence of decompression illness in forward versus reverse multilevel diving profiles (paper submitted to *Undersea & Hyperbaric Medicine*)

**Stefan Neff**, Hyperbaric Medicine Unit, Royal Adelaide Hospital

Decompression illness in hyperbaric nursing staff

**Karen J Walker**, Hyperbaric Medicine Unit, The Alfred Hospital, Melbourne

The performance and safety of a pleural drainage unit (Oasis Dry Suction 3600 chest drain) under hyperbaric conditions (paper submitted to *Undersea & Hyperbaric Medicine*)

Congratulations to all diplomates.

---

**David Smart MD**

Dr David Smart’s thesis “Expired carbon monoxide as a marker of CO poisoning and its application in determining treatment end-points” has been accepted by the University of Tasmania, Australia, for the degree of Doctor of Medicine. He will be awarded his doctorate on 14 December 2005.

---

**Apology**

The Editor apologises that Drew Richardson was not listed in the previous issue of the *SPUMS Journal* amongst recent SPUMS recipients of Undersea and Hyperbaric Medical Society Awards. He received the Craig Hoffman Memorial Award in 2000.

---

**SPUMS diplomates 2005**

The following diploma theses have recently been accepted:

**Stephanie McInnes**, Department of Diving and Hyperbaric Medicine, The Prince of Wales Hospital, Sydney

The incidence of decompression illness in forward versus reverse multilevel diving profiles (paper submitted to *Undersea & Hyperbaric Medicine*)

**Stefan Neff**, Hyperbaric Medicine Unit, Royal Adelaide Hospital

Decompression illness in hyperbaric nursing staff

**Karen J Walker**, Hyperbaric Medicine Unit, The Alfred Hospital, Melbourne

The performance and safety of a pleural drainage unit (Oasis Dry Suction 3600 chest drain) under hyperbaric conditions (paper submitted to *Undersea & Hyperbaric Medicine*)

Congratulations to all diplomates.

---

**David Doolette, PhD**

David, for many years the Society’s Education Officer and also a guest speaker at the 2004 ASM, has recently moved from Adelaide, where he was a research physiologist in the Department of Anaesthesia and Intensive Care, to the USA. He has taken up research appointments with both the US Navy Experimental Diving Unit (NEDU) in Panama City, Florida, and Duke University Medical Center, Durham, North Carolina. He will be working on real-world applications of research into the nature of decompression sickness for both the US Navy and Diver’s Alert Network, in the latter role in close association with Dr Richard Vann.

---

**Resignation of Dr Patterson as Treasurer**

It is with considerable regret that the Society has accepted the resignation of Dr Andrew Patterson from the position of Treasurer and from the Executive Committee as from the end of 2005 (SPUMS financial year). He served in this role for two years, bringing considerable discipline to the financial affairs of SPUMS. Guy Williams will take over as Acting Treasurer from January until the Annual General Meeting in June 2006, when elections will be held for a new Treasurer.
Bug-eyed with disbelief at what the speaker said!

Registrants schooling to the meeting after diving

Michael Lang, Guest Speaker

Fiona Sharp

Martin Sayer

SPUMS ASM 2005
Coca Palms Resort
The Maldives

Photos courtesy, Martin Sayer and Karen Richardson

The Editor still searching for original material for the Journal

David Wilkinson

http://archive.rubicon-foundation.org