

The world as it is

Pathfinder for the epidemiology of Australian recreational scuba diving accidents

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Key words

Scuba accidents, recreational divers, medical database, diving research, diving organisations, diving scholars

Abstract

The majority of research into recreational scuba accidents has been conducted overseas, with Australian studies less frequently found in scholarly journals and books. Many journals now allow access to their archives via the World Wide Web. For researchers of Australian scuba diving accidents, sources of information are presented.

Introduction

Australian research into scuba diving accidents is less frequently found in scholarly journals and books than international research. Electronic databases offer today's researchers an efficient means of conducting searches. Additionally, scholarly journals increasingly allow access to their archives via the World Wide Web. Knowing where to look for information can save researchers much time and effort.

Bibliographic databases

Medline, *Proquest*, *Embase* and *AustHealth* are the four medical databases holding the widest range of diving research. In particular decompression sickness, embolism and otological barotrauma are well represented, though there is little relating specifically to Australian diving research. All four databases allow full access to subscribers, costing per year from \$250 for *Medline* to \$1521 for *AustHealth*.

Citations, abstracts and, often, even full texts can be imported from each database into a bibliographic manager such as *Endnote*. *Medline* allows up to 200 citations per export while *Proquest* allows up to 50 at a time. All four databases have help files describing how to search using field identifiers (to specify, for example, the name of a journal or an author) and truncation (where symbols are substituted for letters, for example, Dive# will search for Diver and Dives).

Medline can be accessed via many portals, for example at <medline.cos.com>, some even free of charge such as through *PubMed*, at <www.ncbi.nlm.nih.gov>.

Proquest is at <www.il.proquest.com/proquest>.

Embase is at <www.embase.com>.

AustHealth (and also *Ausportmed*) can be accessed through <www.rmitpublishing.com.au>.

Sportdiscus, the largest physical education database, can be found at <www.sportdiscus.com>.

AUSPORT, an Australian sporting database, is at <www.ausport.gov.au>.

Australasian Legal Information Institute, a joint facility of the UTS and UNSW Faculties of Law, is freely available from <www.austlii.edu.au>.

Scholarly journals

By far the three most comprehensive collections of Australian diving accident research can be found within the journals of SPUMS, UHMS and DAN (contact information overleaf).

UHMS publish a quarterly peer-reviewed journal and allow access to the archive of back issues via the UHMS web site. Visit <www.uhms.org>.

SPUMS publish this quarterly peer-reviewed journal, which has been indexed by *EMBASE* since 2000.

DAN publishes *SE Asia-Pacific Alert Diver* quarterly, often citing recent diving morbidity and mortality statistics. The magazine is not peer-reviewed.

The *British Journal of Sports Medicine* has published diving-related original research recently. *BJSM* online archives are at <<http://bjsm.bmjournals.com/>>.

Both *Aviation Space and Environmental Medicine* (<www.asma.org/Publication/medicine>) and *Wilderness and Environmental Medicine* (<www.wemjournal.org>) publish original research into diving accidents, though few studies are Australian.

Emergency Medicine, the journal of the *Australasian Society of Emergency Medicine*, publishes Australian diving articles. *Emergency Medicine* abstracts are available through *AustHealth*.

The *Journal of Occupational Health and Safety, Australia and New Zealand* published Australian studies in the 1990s. Visit <www.cch.com.au> for details of how to subscribe.

Other peer-reviewed publications to recently publish original diving-related research include: *Chest*, *Neurology*, *Stroke*, *Thorax*, and *European Heart*

Journal, all indexed by *Medline*, and *British Medical Journal*, *Emergency Medicine Journal*, and *Heart*, all indexed by *EMBASE*.

Books

Best Publishing <www.bestpub.com> stock a very comprehensive catalogue of hyperbaric and dive medicine titles. E-mail: <divebooks@bestpub.com>.

The *Divers Alert Network* and *JL Publications* publish and/or sell many titles related to diving accidents. Contact DAN, or John Lippmann directly, for a list.

Peter Stone at *Oceans Enterprises*, 303 Commercial Road, Yarram, Vic. 3971, <peter@oceans.com.au>, offers a wide range of new and second-hand titles.

The following can only be considered a taster for the range of texts available:

Diving medicine by Alfred Bove and Jefferson C. Davis (Eds). Comprehensive clinical knowledge and a 330+ page Australasian dive medicine text, costing c.\$220.

Diving and sub-aquatic medicine (4th edition) by Carl Edmonds. Probably the most popular dive medicine text for physicians and hyperbaric technicians. Hardcover, 720 pages and costing c.\$225.

Hyperbaric medicine practice by Eric Kindwall and Harry Whelan. The definitive work on hyperbaric practice and useful for the epidemiology of diving injuries. 950+ pages and c.\$210.

Physicians guide to diving medicine by Charles Shilling (Ed). An encyclopaedic clinical reference for the researcher and physician, costing about \$180.

Physiology and medicine of diving (5th edition), edited by Alf Brubakk and Tom Neuman. A 'must have' for the diving medico, costing about \$310.

Underwater ear and nose care by Noel Roydhouse. If you have any change after buying the aforementioned books then pick up this paperback gem for \$20. It is detailed, thorough and a second edition is due any day.

Organisations

SPUMS - *South Pacific Underwater Medicine Society*, has been publishing a diving medicine journal since May 1971. Ordinary membership costs \$132 per year. A list of their published journal indexes can be accessed through the SPUMS web site found at <www.spums.org.au>.

UHMS - The *Undersea and Hyperbaric Medicine Society* is the foremost source of diving accident research. Based in the US, ordinary membership costs \$250 per year. Visit <www.uhms.org>.

DAN SEAP - The *Divers Alert Network in South East Asia Pacific*, has been collecting Australian diving fatality data and publishing diving safety advice for thirty years. Ordinary membership costs \$65 per year. E-mail: <info@danseap.org> Web: <www.danseap.org>

NAUI - *National Association of Underwater Instructors*, another diver training organisation active in Australia, has its HQ in the USA. E-mail: <naiuhq@nauuiww.org> Web: <www.nauuiww.org>

PADI - *Professional Association of Diving Instructors*, the Asia Pacific headquarters of this global diver training organisation is based in Sydney. They certify the majority of Australian divers and collect incident reports for Australian PADI diver-training accidents. Web: <www.padi.com>

SSI - Started in 1970, *Scuba Schools International* is another diver training organisation active in Australia, with more than 1500 dive store affiliates in 86 countries. Web: <www.ssidiving.com>

TDI - *Technical Divers International* is another diver training organisation active in Australia, with 10,000 instructors worldwide. E-mail: <info@tdisdi.com.au> Web: <www.tdisdi.com>

Known scholars in the field of diving accidents

Dr Chris Acott, Diving Incident Monitoring Study. E-mail: <cacott@optusnet.com.au>

Dr Mike Bennett, Prince of Wales Hospital, University of NSW. E-mail: <M.bennett@unsw.edu.au>

Dr David Doolette, Former SPUMS education officer. E-mail: <David.Doolette@adelaide.edu.au>

John Lippmann, Director of the Divers Alert Network. E-mail: <info@danseap.org>

Dr Simon Mitchell, Hyperbaric Unit, Royal New Zealand Naval Hospital. E-mail: <dr.m@xtra.co.nz>

Dr Douglas Walker, author of the Australian diving fatality reports. E-mail: <diverhealth@hotmail.com>

Professor Jeffrey Wilks, University of Queensland. E-mail: <j.wilks@mailbox.uq.edu.au>

Dr Robert Wong, Hyperbaric Unit, Fremantle Hospital. E-mail: <robert.wong@health.wa.gov.au>

Government documents

The Queensland Workplace Health and Safety Industry *Code of Practice for Compressed Air Recreational Diving and Recreational Snorkelling* is available from <www.whs.qld.gov.au/icp>.

Recreational Diving and Snorkelling Codes for WA produced by the Western Australian Department of Sport and Recreation, are freely available to download from <www.dsr.wa.gov.au>.

Navigable Waters Regulations for Western Australia, including diving regulations, can be purchased for \$10 from the State Law Publisher. Visit <www.slp.wa.gov.au>.

Similar codes of practice and boating regulations are in force in other Australian states. Contact your local dive store and they'll describe who is responsible for which regulations in your state.

Statistics

At the time of writing the third release of the 2001 Australian Census CD-ROM is awaited by regional librarians across Australia. Access is free but copies cannot be borrowed. It does not relate to diving specifically but it does offer population data such as age distribution by geographic region.

The Australian Bureau of Statistics web site provides free access to many published surveys. Publication 4177.0 describes scuba diving participation rates for each state. The 2000 version is probably more accurate than the 2002 version. Visit <www.abs.gov.au>.

The Bureau of Tourism coordinates national tourism surveys of visitor volumes and expenditure.

The *National Visitor Survey* (NVS) began estimating volumes of domestic travel within Australia in January 1988, specifically following Australian residents aged 15 or over, the age from which most entry-level dive courses can be undertaken. The survey method is by telephone interviews conducted continuously throughout the year.

The *International Visitor Survey* (IVS) mirrors the NVS and specifically monitors international visitor volumes by region. The survey method is by interviewing departing visitors at the airports of Perth, Sydney, Melbourne, Brisbane, Cairns, Adelaide and Darwin.

The *Domestic Tourism Monitor* was the major data source on Australian residents travelling within Australia until 31 March 1998, whereupon it was replaced by the NVS.

State tourism commissions are a font of information. In Western Australia there are regional offices around the

state and the HQ, who produce a *Research on Tourism Brief* every six months, are at 16 St Georges Terrace, Perth, WA 6000, postal address GPO Box X2261, Perth, WA 6847. Free surveys and reports are available from <www.westernaustralia.com/en/>.

Australian standards

The Australian Standards that relate to scuba diving are available to purchase from Standards Australia by phoning 1300 654 646 or e-mailing <sales@standards.com.au> and they are (cost):

AS 2299.3 (\$64.24)	AS 4005.2 (\$47.52)
AS 2299.1 (\$140.80)	AS 4005.3 (\$29.92)
AS 2299.1 Supp 1 (\$22.88)	AS 4005.4 (\$39.16)
AS 2299.2 (\$108.68)	AS 4005.5 (\$39.16)
AS 4005.1 (\$54.12)	

They are each described on the standards web site <www.standards.com.au>.

Note: All web sites and e-mail addresses were confirmed 17 August 2004.

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