

LEADING ARTICLE

DIVING EMERGENCY SERVICE

Introduction

The Diving Emergency Service (DES) is a telephone advice service available to divers in Australia (toll-free) and the South Pacific region (costs borne by the caller), in the event of a diving accident. A similar system, the Divers Alert Network (DAN), has been operating in the United States of America for several years. Both provide advice over the telephone and both advise on transport to a hyperbaric facility if this is needed.

There are more problems in organising help for divers in Australia and the South Pacific than there are in North America and Europe because of the distance between hyperbaric facilities in Australia and the remoteness of many of the diving localities in the South Pacific.

Origins

DES began as an Australian Underwater Federation (AUF) initiative during 1984. At their request the Minister of Defence committed the Royal Australian Navy (RAN) School of Underwater Medicine (SUM), at HMAS PENGUIN, to providing a 24 hour contact point for diving accident advice which was given by the duty medical officers of RAN SUM. SPUMS publicised this service with a poster, distributed to all hospitals and ambulance services in Australia, giving advice on first-aid for diving accidents and the number to ring for expert advice.

The initial DES was not toll-free and consequently it ended up serving mainly the Sydney metropolitan area.

The Present

Problems with contacting the RAN SUM medical officers, due to changes in the Navy's telephone exchange manning, the establishment of the Royal Adelaide Hospital (RAH) Hyperbaric Medicine Unit with financial support from the National Safety Council of Australia (Victorian Division) and the support of the Federal Ministers of Defence and Health, enabled the establishment of a truly national DES providing a toll-free number (008-088-200). This is manned 24 hours a day and gives divers access to expert advice from doctors experienced in diving medicine.

The financial collapse of the National Safety Council of Australia (Victorian Division) threatened the survival of

DES but the recreational diving industry (including FAUI, NAUI, PADI and SSI) rallied to its support and provided money to keep it going. SPUMS contributed \$ 500 when it was most needed, and various SPUMS members also contributed individual donations. The AUF and the Commonwealth Department of Health also contribute to the running costs. The Diving Industry Travel Association of Australia (DITAA) assists DES by providing a promotional stand at its yearly exhibition, SCUBA EXPO. Telecom Australia has also supported DES in a most practical way by donating a mobile telephone.

Besides providing telephone advice DES is now involved in collecting accident and incident statistics and publishes a newsletter. "Divesafe" is available for an annual subscription of \$ 5.00. Write to "Divesafe", C/o PO Box 400, GPO Adelaide, South Australia 5001.

Contacting DES

DES is based at the Royal Adelaide Hospital Hyperbaric Medicine Unit. Originally the toll-free telephone rang in the RAH Intensive Care Unit (ICU). Now the toll-free telephone contact is located at the St John's Ambulance Communications Centre in Adelaide. This has enabled DES to increase the efficiency of its service and reduce delays in contacting the duty DES doctor, who carries a special beeper and a mobile phone. Calls on the toll-free number (008-088-200) are diverted to the mobile phone and the duty DES doctor can immediately speak to the caller and give advice. Emergency advice on diving accident management includes the likely diagnosis, the necessary first-aid and, when necessary, how to arrange retrieval to a hyperbaric facility.

Calls from outside Australia (user pays number 61-8-223 2855) are still answered by the nursing staff in the RAH Intensive Care Unit. This is an international medical retrieval number for South Australia. There is a set protocol for diving emergencies which allows the staff of the ICU to provide first-aid advice while they contact the DES duty doctor. If the situation can be handled by advice alone this is done, otherwise the DES duty doctor arranges retrieval for the diving casualty. This is not a cheap procedure and appropriate insurance is advised for all divers.

While DES is available 24 hours a day for emergency calls on the toll-free number, information of a non-urgent nature may be obtained from the Hyperbaric Medicine Unit, Royal Adelaide Hospital by telephoning 08-224 5116 dur-

ing business hours. Advice is also available from the caller's local hyperbaric medicine unit.

Workload

In the year following its official launch, on July 4th 1986, by the then Federal Minister of Health, Dr Neal Blewett, DES was involved in the management of more than 120 diving accidents. This doubled in 1987-88 and in 1989 more than 1,000 contacts were made. Calls came from as far away as the Sultanate of Oman and from Brazil. During this time the Commonwealth Department of Health has increased the efficiency of the service by funding an up-grade of the telephone system and by supplying pamphlets advertising DES in different languages.

There is a seasonal variation in the number of phone calls received. The winter sees a marked reduction in calls from the southern States. A record of calls has been published.¹ Some of the urgent incoming calls require several outgoing calls before the matter is successfully resolved. Approximately 40% of the incoming telephone calls are non-urgent.

Retrievals

Medical retrieval networks are co-ordinated by the ambulance or retrieval services in each State. In general, retrieval for diving accidents consist of what are known as "hospital to hospital transfers". Unless the casualty is within a short distance of a hyperbaric unit the casualty is taken to the nearest hospital for primary treatment before retrieval to a hyperbaric unit.

When a diving casualty, who requires recompression treatment, is remote from a hyperbaric unit road ambulance transport is not acceptable where distances are great or the road rises to 300 m above sea level (this will involve decompression of the casualty and is very likely to worsen his condition). In these circumstances pressure controlled retrieval by aircraft is indicated.

The overall service

The service available to Australian diving casualties consist of DES as an emergency advisory service, the various ambulance or retrieval services which organise and control the retrievals and the various participating hyperbaric units which provide the treatment.

These combined resources have, in Australia and elsewhere, already significantly reduced the morbidity and mortality arising from diving accidents.

How does DES benefit the diver ?

The present national system ensures that a diving casualty is only a free phone call away from advice and help 24 hours a day, seven days a week, every day of the year.

There have been recent suggestions that the States should set up their own diving emergency service to provide services for each State. Duplication of the existing national, and international, DES in the States would be counter-productive, economically unsound (splitting the available resources) and, as a result of under-funding, detrimental to the diving community. Although the hyperbaric units in Australia are among the best in the world, obtaining adequate expert staff is a problem for all of them. Doctors appropriately trained in treating divers, who also have expertise in intensive care, resuscitation, anaesthesia, medical evacuation and retrieval are few in Australia. This is the expertise needed to run a successful DES.

The essential part of DES is the 24 hour, seven days a week, 365 days a year medical cover provided by doctors trained in diving and hyperbaric medicine. Without this medical cover for emergencies the service would be inadequate and not offer the essential rapid access to expert advice. At present the Royal Adelaide Hospital Hyperbaric Medicine Unit is the only unit that has sufficient appropriately trained staff to be able to provide such cover for a diving emergencies.

The Future

It is proposed to link DES with the New Zealand equivalent in the near future and it is hoped that this international co-operation will soon include DAN in the United States. The first result of this will be a shared, and vastly enlarged, data base of diving accident reports and of treatments and their results. From this should come improved treatment protocols as the results of various treatments will be easier to identify in a large series. At present no one unit is treating enough decompression illness for its results to be statistically valid in a reasonable length of time.

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Reference

- 1 Diver Emergency Service calls received by the Royal Adelaide Hospital. *SPUMS J* 1989; 19 (4): 196-7