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7/5/94

Dear Editor,

Although my practice involves commercial divers, I noted with some agreement the two articles in the March issue concerning diabetic divers. Dr Sullivan's mention of Dr Ken Kizer deserves further comment.

Dr Kizer is a former US Navy diving medical officer; we received our training together. Ten years ago, in a Canadian scuba magazine, he discussed the medical evaluation of diabetics for diving. Kizer outlined six criteria which he believed should make the diabetic acceptable:

- a mature individual who accepts his condition and the need for special care; no evidence of denial or self-destructive tendencies; able to plan and foresee;
- good understanding of diabetes in general and his own case in particular; the interactions of diet, exercise, and insulin;
- physically fit and regularly participating in exercise or athletics without difficulty;
- no evidence of chronic nervous or cardiovascular impairment;
- willing to follow conservative bottom times and diving in general, avoiding tricky or challenging diving;
- finally, a dive buddy who knows and is comfortable with the diver's diabetes and knows how to help if there is an insulin reaction.

As Kizer's writer-successor, I was so impressed with this article that I wrote a follow-up in 1988, adding a few thoughts of my own. Shortly after, I was contacted by a Canadian university diving officer concerning a diabetic marine biologist from Ireland who wanted to come for a year's post-doctoral work. Letters from his general practitioner, diving club, and former university indicated he met the criteria outlined above and had been diving many years with no unusual difficulty.

Assuming the diving officer had firm administrative support, I recommended he allow the scientist to dive. During his time in Canada, there were no problems (with all the diving done in cold water).

Clearly, many diabetics cannot meet these criteria, perhaps most; those who do could be the safest folk in the water. While I do agree with the general prohibition or scepticism regarding diabetics, Kizer's criteria make good sense and can help dissect out those diabetics who are the exception to a sound general rule. As he said himself "Many of these diabetics are active and athletic people who suffer no functional impairment .... not surprisingly, a number are interested in scuba diving".

Gordon Daugherty

ASTHMA AND DIVING

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15/5/94

Dear Editor,

It is with some reluctance that I venture to comment on statements made in the recent Journal (March 1994). However, in the interests of accuracy the following points should be discussed as they bear directly on the reputation of the Society.

1 **Asthma**

It is stated that "Asthmatics are over represented in diving fatalities".[1] This appears to be untrue in relation to Australia and New Zealand. I have copies of the Coronial records of 201 Australian and 120 New Zealand scuba diving related fatalities. In only four of the deaths (Aust SC 81/1, Aust SC 84/5, NZ SC 81/2 and NZ SC84/1) could asthma have been a possible cause of death. In these cases there were significant additional factors present capable of causing the fatal outcome. There were six deaths in Australia and three in New Zealand where there was a definite, or possible, history of asthma but asthma played no part in the incident (see table on pages 29 and 30). These facts should be remembered in any discussion of the fatality rate in asthmatic divers. Naturally there is no information about the participation rate of asthmatics in scuba diving because all such divers are reluctant to reveal their condition to doctors.

2 **Data reliability**

The statement[2] that "Data can never be true or false and are always subject to criticism and analysis" cannot be allowed to remain unchallenged. Unless it is deliberately false or inaccurately collected, data should be accepted as "true". However it may be incomplete, selectively reported, or wrongly focused, and is always at risk of having invalid conclusions drawn from it.

3 **Democratic decision making**[2]

The statement that to have a post-workshop vote "would also not favourably weigh informed opinion and be subject to the bias of the writers of the draft, the reviewers of the literature (for the benefit of those not well informed about the subject matter) and the analysers of the consequent correspondence" is a clear declaration that careful discussion of "Workshop" decisions is thought undesirable as different conclusions might be reached. To say that critics have misinterpreted the Policy and to disagree with the findings "is not particularly complimentary to the participants" is to personalise a discussion which should be dealing with facts.

4 **Decisions cannot be criticised later**

The statement[3] that the majority decisions of the next "Workshop" cannot be subject to the critical examina-

ASTHMA HISTORY IN 321 SCUBA DIVING FATALITIES IN AUSTRALIA AND NEW ZEALAND

No history of recent asthma

Aust SC 79/2

Trained but inexperienced, good visibility so diving as a group, separation, swimming strongly when last seen. Body never recovered.

Mild asthmatic, only details "there had been no attacks for a number of years"

Aust SC 84/1

No training, possibly some experience. Buddy untrained but experienced. Separation, sat on a rock then found floating. Cardiac death

Single episode of "wheezy bronchitis" in 1983 when he used Ventolin.

Aust SC 90/6

Young boy, trained but inexperienced, contents gauge caught between rocks while in rough water over a reef.

No history asthma "but pathology suggested this".

NZ SC 87/1

Training and experience not stated, separated during dive, found on sea bed clutching catch bag, tank free from backpack, wights on and BC not inflated. Inadequate data to state why he died.

Histology showed "mucus plugs in some bronchi and tissue changes suggestive of acute asthma".

No history of recent asthma but evidence of drug usage

Aust 84/5

Trained diver. Separated as started ascent "nearly low air", surfaced with mask off, vest inflated, weight belt on. Floated unconscious (CAGE). Died in RCC after initial response to treatment.

Ventolin containers found in his room. Sister, who had asthma, admitted that "he had asthma until age 8" and that he was a heavy smoker at times.

Asthma may have contributed to this death.

History of recent asthma drug usage unknown

NZ SC 81/2

No training, no experience, borrowed hired equipment from friend who warned that the contents gauge had error and not to loan equipment to anyone. Left alone in 4.5 m deep rock pool, found dead floating face up, vest inflated, weights off and tank empty.

Reportedly "only two or three asthma attacks a year, not severe." Lung histology "severe mucus plugging of some small bronchi".

Asthma might have contributed to this death.

NZ SC 84/6

No training, first use scuba, separation from buddy for solo surface swim to boat, called for help, drowned.

Said to be a "controlled asthmatic". Buddy was unaware of this. No histological evidence of asthma.

History of asthma and using drugs

Aust SC 77/3

No training, first open water dive after single pool dive, water cold and choppy, attempted exit on to rocks, washed off.

Four year history of asthma and nasal allergy, smoking 15-30 cigarettes a day and using a bronchodilator.

Aust SC 81/1

Impulsive nature, asthma symptom onset caused surfacing then surface separation. He swam to rocks where he ditched his back pack buoyancy instead of his weights, drowned.

Severe asthma history, recent near fatal dive incident.

Asthma was involved in this death

Aust SC 86/4

Blind, obese, hypertension, asthma, severe head injury from road traffic accident. Closely monitored dive, surface death from cardiac disease.

Allergic wheeze to redwood in 1984. In 1985 asthma attacks March and November (requiring hospitalisation), then put on steroids. December 1985 his doctor described his asthma as "mild" and no contraindication to diving.

Aust SC 91/2

Trained but poor ability as a diver. Sudden silently unconscious as watching fish close to buddy (instructor). Cardiac death.

Family admitted that he used Ventolin but claimed that "he was not an asthmatic, had a similar condition". Described as having "borderline respiratory function" at diving medical. Failed to reveal asthma history.

NZ SC 84/1

No training, third use of scuba, snorkeler who admitted habit of breath holding during ascent. Seen to use inhaler before dive. Ascended slower than buddy, gave surface OK then collapsed. Clinical CAGE but no evidence of this at autopsy or that asthma affected outcome.

Reportedly a severe asthmatic he used 1 Ventolin pack a month. Lung histology "small airway obstruction

consistent with asthma".
***Asthma might have contributed to this death*.**

NZ SC 84/4

No training, first use of scuba, hired equipment, poor visibility, cold, so separated and sat on rock. Started return underwater. Buddy, who had no training and was using scuba for the third time, was at surface, saw the victim surface, call for help and sink. Death due to drowning.

Said to be liable to asthma attacks. Used Ventolin and Becotide and took Nuelin. "No evidence of active asthma."

tion of anyone not represented at the "Workshop" is ludicrous. Facts cannot legitimately be ignored in either scientific or medical discussions merely because they were not formally presented at some set time and place. Truth does not depend on a show of hands but is reached by establishing a fit between theory and the available facts. And before any problem can be solved it must first be correctly identified.

5 **Inevitability of running out of air**

It is defeatist to hold that running out of air should be accepted as inevitable,[4] as can be shown by the results of training cave divers to avoid any such situations. To reduce the frequency of low/no-air situations by scuba divers will require the introduction of a far stricter training protocol with greater stress on the dangers of running out of air under water and explaining that trying to breathe water leads to drowning.

6 **SPUMS Policy making**

That the SPUMS Committee decided to elevate the findings of a "Workshop" discussion into a declaration that emergency ascent training was necessary was an unnecessary and unwise decision. At no time was the available scuba fatality data considered to assess the relative importance of the adverse factors which have been identified in scuba diving fatalities nor was there consideration of the relative value of the options which are available to mitigate adverse factors.

Douglas Walker

References

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3 Acott C. SPUMS Scientific Meeting and Dive Computer Workshop. *SPUMS J* 1994; 24 (1):22
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DIVER EMERGENCY SERVICE (DES)

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27/4/94

Dear Editor

During April 1994 a meeting was convened, in Durham, North Carolina, by the Divers Alert Network (DAN USA) to discuss the future collaboration of countries providing, or wishing to provide, a 24 hour emergency service to divers in need.

Represented at this meeting were DAN America (President Dr Peter Bennett, with many other members of DAN USA's Board of Directors and staff), DAN Japan (Professor Yoshhiro Mano), DAN Europe (Dr Alessandro Marroni), DES Australia (Dr John Williamson) and DES New Zealand (Dr Des Gorman). DAN Europe, co-ordinated through a central emergency telephone location in Switzerland, is co-operation between many, but not all, European nations. The administrative headquarters of DAN Europe is with Dr Marroni, who also provides an Italian divers' emergency hotline, in Roseto, Italy.

After considerable discussion Australia and New Zealand resolved to remain respectively DES Australia and DES New Zealand, identifying the emergency telephone services of those two countries. However full and harmonious co-operation will continue with international activities (formerly IDAN) such as data sharing and joint collaborative research efforts towards improving the safety of diving worldwide. Indeed, Australia's Project Stickybeak, and the Diving Incident Monitoring Study (DIMS) are in some ways international role models of such data gathering.

DES is an established and well recognised emergency telephone consultation service for divers in our two countries. The service is maintained by, at present five, specialist anaesthesia and diving medicine consultants on a totally voluntary basis, and somewhat uniquely, provides a diving medical physician as a first response. It is clear that the DES services in Australia and New Zealand compare more then favourably with existing national services in other countries. The existing DES Australia Oxygen Courses will remain under that identity, and the DES logo will remain the international flag alpha, bearing a white cross, signifying medical and first aid activities, and a kangaroo. The DES Australia telephone numbers remain unchanged. Within Australia, (user free) 1-800-088 200, and from outside Australia (user pays) 61-8-223 2855.