



Dr David Griffiths, Director of the Hyperbaric Medicine Unit in Townsville, after a dive. His Kirby-Morgan Band Mask is face-down at his feet. Further down the jetty Professor Elliott acts as tender for another diver.

hood and octopus straps, and commercial gear, at the excellent recreational dive training facility belonging to Perth Diving Academy. Dives were also made in the harbour, carrying out examples of underwater tasks, such as using pneumatic and hydraulic tools. Non-divers used the Perth Diving Academy training pool, and two who had never been underwater before dived successfully to 3 m in commercial gear. They found this a valuable experience in understanding the commercial diver's work environment.

The International Foundation for Accident Prevention (IFAP) put participants through its helicopter escape training operation. Some of the participants had to jump from 4 m into Fremantle Harbour, on a wind chilling day, right and board a large life raft. The group also visited the Submarine Escape Training Tower at the Royal Australian Navy Base at HMAS Stirling.

All the trainees felt that they had benefited greatly, gaining an understanding of the way in which the working diver earns a living. Ken from Canada found that he had to come all the way to Fremantle to find out what being cold in the water really was!

Professor David Elliott's course is well recognised throughout the world as the definitive course. This is the first time it has been run outside Europe and outside the Northern Hemisphere. Another group of doctors now have a greater understanding of the environment and the tasks of the diver's work.

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DIVING SAFETY IN QUEENSLAND: SOME OBSERVATIONS

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Key Words

Decompression illness, safety, tourism.

Introduction

In recent years there have been several attempts to quantify the number of dives made annually off the Queensland coast, particularly dives on the Great Barrier Reef. Some efforts have provided detailed methodology,^{1,2} while in other published reports it is unclear how a final figure was obtained.³⁻⁶

A useful contribution to this developing data base is the new market research report by Windsor.⁷ He suggests that there were 1,290,500 dives undertaken on the Great Barrier Reef during 1994. While rounding of figures to the nearest 500 or 1000 throughout the report indicates that the calculations are largely approximations, the study nevertheless provides a valuable baseline for examining diving safety in Queensland during that period. Only by linking diving numbers to injury reports can overall rates of safety be determined.⁸

In a study just completed,⁹ we examined medical records to determine the numbers and principal diagnoses of tourists admitted to Queensland hospitals during the financial year 1993/1994. Following the recommendation of Walker and her colleagues, that tourist health research should target hospitals at the major tourist destinations in Queensland,¹⁰ we chose to study seven regional hospitals in Cairns, Townsville, Mackay, Proserpine, Rockhampton, Nambour and the Gold Coast. These facilities were chosen because they are the main hospitals in each of Queensland's major coastal tourist destinations, as identified by the Queensland Tourist and Travel Corporation.¹¹

TABLE 1

**QUEENSLAND HOSPITAL ADMISSIONS
FOR DECOMPRESSION ILLNESS (1993/1994)**

Tourist group	All injuries	DCI patients	DCI as %	DCI ranking in all injuries
Overseas	261	35	13.4	2
Interstate	535	11	2.1	10
Intrastate	997	23	2.3	9
Total	1793	69	3.8	6

Tourists were defined as all people visiting Queensland destinations who were not residents of the Regional Health Authority in which they were admitted to hospital. A total of 135,128 patients were admitted to the seven hospitals over the one year study period.

Table 1 shows that decompression illness (DCI) was the second most frequent type of injury requiring hospitalisation for overseas tourists (following fractures). For interstate tourists and residents from other parts of Queensland, decompression illness was less prevalent as a serious injury.

Use of Hospital Inpatient Data

The present seven hospital sample is only suggestive of the total number of visitors to Queensland who may have experienced decompression illness during 1993/1994. Among the limitations in this type of epidemiological research are that some cases of DCI may be missed if all hospitals in Queensland are not included in the sample and any study of hospital inpatients will not include those who died before being admitted to hospital. Therefore deaths related to scuba diving will not be included. Information about diving deaths will need to be obtained from coroners' records; a procedure well documented by Project Stickybeak.¹² Also some tourists may not be correctly identified if the address given suggests that they are local residents¹⁰.

As a general indicator of diving safety the hospital figures presented here can be viewed against the background of scuba activity provided by Windsor⁷ for roughly the same period. From the 1,290,500 dives he reported the major coastal hospitals identified 69 tourists with DCI (0.53 per 10,000 dives)

Demographic profiles from the Townsville Hyperbaric Unit, the main hyperbaric facility in Queensland, show that many patients treated are from outside the local hospital area.¹³⁻¹⁵ It has been suggested that overseas visitors may be at particular risk for diving

accidents due to factors such as language barriers, poor initial scuba training, limited diving experience and unfamiliarity with local diving conditions.^{9,16} However, these factors have not been empirically investigated for tourist divers within Australia.

Since decompression illness has now been identified as the second main type of injury requiring hospital admission for overseas tourists in Queensland, greater attention should be given to understanding and correcting factors that may contribute to diving injuries for overseas visitors who are economically very important to the Queensland recreational diving industry.¹⁷

A concerted effort to develop safety initiatives and improve risk management will also benefit the public image of the recreational diving industry by reducing adverse media stories of injuries experienced by overseas visitors to Queensland.¹⁸ By linking market research findings with accurate medical data on morbidity and mortality some firmly based statements may emerge about the safety of scuba diving in Queensland.

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