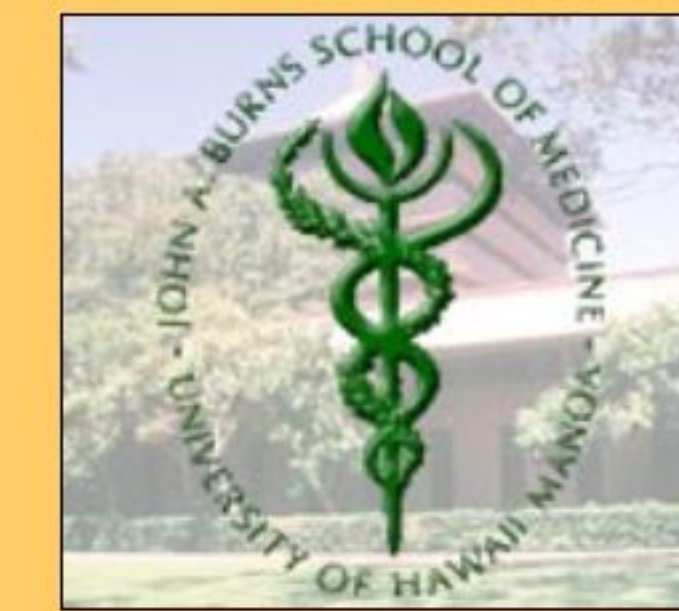




DRUGS DOWNED DIVERS DID

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INTRODUCTION

Few studies have defined the potential interaction of medications with the physiological processes which occur while diving. Often we do not know to what extent and which medications might be used by divers, not withstanding the contributory effects a particular drug, either alone or in combination with other drugs, and the medical conditions for which they were prescribed may have on the ability of the diver to deal with the decompression stress and operational imperatives associated with diving.

This study was designed to assess the scope and nature of medication usage in a population of recreational divers who had been treated for decompression illness (DCI).

METHODS

A review of patient records for all divers treated at our facility (HTC) between the years 2000-2006 was conducted to ascertain how many had been using drugs/medications at the time of their accident, and to identify those specific substances. This information was originally obtained during the initial evaluation at the time of presentation.

The percentage of cases using medications as well as the total number of different drugs was determined. Once identified, the medications were grouped according to the classification as outlined in the Physician's Desk Reference (PDR) and the reasons for which they had been prescribed per diver history in each case. The number of cases and percentages for each drug classification within this study population was determined.

No attempt was made to correlate the use of any specific drug type as a putative factor leading to or contributing to the injury in this study.



RESULTS

278 cases were treated between 2000 and 2006. 92 cases (33%) had been using at least one drug at the time of their accident. Some had been using multiple medications. In all, 123 different medications had been used in this study population.

Table 1. Number and percent cases by drug category (n=278)

<u>Drug category</u>	<u>Number of cases</u>	<u>Percent of cases</u>
Psychotherapeutics	28	10%
Antihypertensives	25	8.9%
NSAIDS	24	8.6%
Antihistamines	18	6.4%
Hormones	17	6.1%
GI agents	14	5.0%
Bronchodilators	11	3.9%
Steroids	11	3.9%
Antibiotics	10	3.5%
Analgesics		
(non-narcotic)	9	3.2%
Antilipemics	7	2.5%
Diuretics	5	1.7%
Antiglycemics	4	1.4%
Narcotics	4	1.4%
Anti-seizure meds	4	1.4%
Migraine preps	4	1.4%
Urinary tract preps	4	1.4%
Anti-motion sickness	4	1.4%
Anti-coagulants	2	0.7%
Miscellaneous	10	3.5%

DISCUSSION

A substantial proportion (33%) of injured divers in this study were taking prescribed medications prior to their accident. This is a slightly higher percentage than that reported by Taylor et al (*SPUMS J; Vol.32:3;Sep 2002*) in a study of self-reported medication usage in both Australian and American divers (24.4%). On the other hand, 67% of those studied had taken no medications, suggesting, perhaps, that the use of some medications may not be a significant contributing factor.

Only a few studies have been conducted to ascertain the effects of certain drugs on divers while diving, primarily antihistamines, anti-emetics, and decongestants. Given the advancing age of the “baby-boomer” divers and the likelihood that many will be medicated for some medical condition, it is becoming more important to understand the potential interrelationships of prescribed medications and diving stress.

Of no less importance is the impact of the medical condition being treated and the confounding aspects of both drugs and condition. Indeed, some of the medications used by the divers in this study were administered for conditions which have been viewed as at least relative contraindications for diving.

It would also be useful to know whether certain pharmacological agents could result in actual improvement in tolerance to decompression stress particularly for conditions whose pathophysiology is more apt to have an adverse impact on diving safely.

CONCLUSIONS

Further study to assess the pharmacological effects of medications on divers under hyperbaric conditions are needed.

Just as important is the need to evaluate the impact of various medical conditions for increased risk associated with diving.

There is a need to investigate whether use of particular medications may predispose a diver to increased risk of injury.

Hyperbaric Treatment Center, University of Hawaii, John A. Burns School of Medicine,
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