



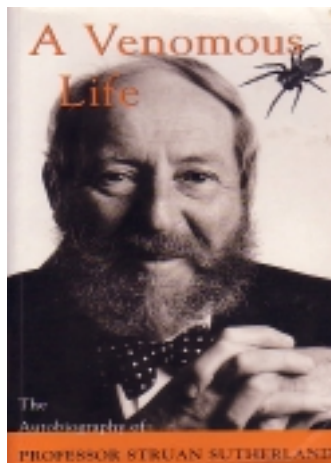
# FIRST RESPONDER July Newsletter

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## STRUAN SUTHERLAND PASSES AWAY

Last January the world lost one of the best known experts in Venomous Creature research - Dr. Struan Sutherland. Struan died after a long battle with a debilitating disease. Struan authored many publications on Australia's venomous creatures and was responsible for the development of the antivenom for the funnel web spider possibly the world's most deadliest spider.



Struan's career spans many years and was dotted with many trials and tribulations having had a difficult time in gaining acceptance from his peers. His autobiography "A Venomous Life" is compelling reading tracing Struan's life and his quest to develop a safer environment for Australians whom many of which have daily encounters with some of the world's deadliest creatures.

All those trained in "Emergency Care" should be familiar with the "Pressure Immobilisation Technique", one of the single most potentially life saving technique taught in Australian First Aid classes.

See page 4 for this month's book review presented by Julie Armour, Health and Safety Consultant - Sydney

## Oxygen Qualifications !!!! - ARE THEY WORTH THE PAPER THEY'RE WRITTEN ON ??

Well the short answer may be NO!!

Over the last few months our office has seen a surge in enquiries relating to the recognition of "Oxygen Qualifications" in various workplaces. This has almost exclusively occurred in the Diving Tourism area. Just recently we received an enquiry from the management of a large cruise vessel which travels up and down the Barrier Reef. They thought it might be time to have their oxygen equipment upgraded as their Divemasters had complained that it was not operational. When we examined the equipment along with the "qualified" crew it became apparent that the training each of the crew had received was quite inappropriate for the equipment found in this particular workplace.

Despite the training they had received only a few short weeks ago they could not recall what equipment they had been trained to use, who conducted the training and what endorsement (if any) was on their qualification. The equipment that this particular company had was an Oxy-Viva system with a manually triggered ventilator - quite standard in many workplaces around the country. This is not just an isolated incident and it results in both the holder of the qualification and the employer being short changed.

The story usually goes like this:

Diver Dan, all keen to get his or her Divemaster/Instructor qualification enrolls into an Oxygen Provider course usually conducted by the organisation delivering the Diving training. Diver Dan is not told that the trainer may not be sufficiently qualified to accredit people, especially in Queensland for the equipment generally found on Dive/Cruise vessels. And why would this trainer inform his student of this - after all they have paid good money to get their qualifications. So they end up with a qualification that they will need to upgrade anyway. Meanwhile the Human Resources Department of "Come see the Barrier Reef with Us" company has generally no idea how varied an Oxygen Qualification can be. So it's not until there is some emergency situation that this shortcoming is noticed because Divemaster Dan is not going to be too forthcoming with the fact that he or she has no idea of how to operate the oxygen equipment. And so the story goes.

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*Edited by Charles Makray - managing director*

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**Oxy-Viva unit with Manually Triggered Ventilator - used by most large Dive/Cruise operations in Queensland**



**Bag Valve Mask Device - another common type of unit**

## HOW TO SOLVE THE PROBLEM??

This is not easy when there is a proliferation of Dive Instructors able to deliver First Aid and Oxygen programs. Unfortunately most Human Resource departments aren't aware that there are many levels of Oxygen Qualifications which are equipment specific. So maybe our experience can help companies that have come across this problem.

Firstly it needs to be pointed out that under the Workplace Health and Safety Act an employer is obligated to ensure that staff are trained and competent in the use of equipment found in that workplace. With this in mind we assisted many of our clients in establishing criteria for assessing these qualifications during employment interviews or shortly after commencement of employment. We also suggest that during the induction phase of employment the participant is asked to assemble and explain the emergency equipment in situ. If the participant cannot explain or describe the assembly and use of emergency equipment this quickly establishes a lack of competency in this area and further training should be scheduled.

Unfortunately this problem will not be resolved at the dive training end and we hope that as employers become more informed that they will place pressure on the Dive Industry to produce Divemasters and Instructors with useful qualifications enabling them to meet the underpinning knowledge and skills to effectively use Emergency Oxygen Equipment in any workplace.

*Edited by Charles Makray - managing director*

## **Another First for First Response !**

Next September will see First Response Australia launch it's newly developed program -

### **Certificate IV in Emergency Medical Technology**

Great Adventures, outer reef dive/cruise company will have 10 of its senior staff trained to Emergency Medical Technician (EMT) level. It already has approximately 55 of its personnel qualified to "First Responder" level (First Aid, Oxygen Resuscitation and Defibrillation) and 3 trained to EMT.

What makes this particular program unique is the elective subjects they have chosen - Intravenous Fluid Therapy and Advanced Airway Management with the use of laryngeal mask airways. These skills are usually contained within the realm of paramedics. The course will be run over 12 weeks and includes visits to local hospitals to gain first hand experience for the paramedical skills taught in class.

Again, Great Adventures leads the way and sets the standard for Emergency Care in the Tourism / Dive Industry.



**Intravenous Cannulation and Fluid Therapy**



## **NEXT EMERGENCY MEDICAL TECHNICIAN PROGRAM**

**CERTIFICATE LEVEL IV  
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## Changes in Jellyfish Sting treatment.

You may recall in our last newsletter we alerted all to the public health risk that was being posed to residents and visitors of North Queensland by that little stinging creature, the Irukandji. Over the last couple of months there have been some updates on the subject following the second death attributed to this type of Jellyfish. As we reported, this summer saw an unprecedented amount of stings with 118 people being admitted to Cairns Base Hospital suffering from "Irukandji Syndrome". This problem is now classified as a syndrome as there has been up to six species of Irukandji identified with other jellyfish also being able to result in the same set of symptoms as the Irukandji.

Of the 118 persons admitted to hospital 30 showed biochemical evidence of cardiac damage and approximately 10 of those required intensive care in the coronary unit.

Cairns is fortunate to have a number of talented people conducting an enormous amount of research into the "stinger" problem, namely Dr. Jamie Seymour (Dept. of Tropical Biology, James Cook University and Dr. Peter Periera (Dept. Emergency Medicine, Cairns Base Hospital). These gentlemen having been conducting research into the appropriateness of applying a Pressure Immobilisation Bandage for Irukandji and Box Jellyfish stings. Their findings indicate that further envenomation can occur to persons stung by these creatures, despite the fact that vinegar has been applied previously. Their research has convinced the Australian Resuscitation Council and Surf Life Saving Australia to immediately recommend the change of not applying the Pressure Immobilisation Bandage for "Stinger" treatment.

So let's summarise the new treatment for both of these deadly animals!

### SUSPECTED IRUKANDJI STING

- 1) First stop the casualty irritating the sting area by not allowing them to rub the skin.
- 2) If you have vinegar flood the sting site or place a vinegar soaked pad on the sting site. Often there are no signs of weals. Vinegar is essential as it inhibits discharge of venom from the stinging cells.

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- 3) Do not use pressure immobilisation.
- 4) Oxygen may not be required in the initial stages (hyperventilation is a common feature of Irukandji syndrome; blood oxygen levels are not reduced.)
- 5) Contact Emergency Services for advice and evacuation arrangements.
- 6) Monitor the patient closely and record all details to pass onto medical personnel.
- 7) If possible, mark the stung area with an indelible ink pen by drawing a circle around the area. This will assist researchers in identifying the type of animal responsible for the problem.



**Close up of Irukandji - the bell is only 1.5 cms across**

### BOX JELLYFISH STING

- 1) Remove casualty from water ASAP (ensure safety to self and others)
- 2) Restrain the casualty or bystanders from rubbing the sting area
- 3) Remove adherent tentacles if vinegar is not available
- 4) Douse stung area with copious amounts of vinegar for at least 30 seconds. (no spirits or alcohol)
- 5) DO NOT apply pressure immobilisation
- 6) Be prepared to administer EAR/CPR
- 7) Contact Emergency Services ASAP
- 8) If more vinegar is available continue to liberally douse the stung area.

**Box Jellyfish - deadly!**



*Edited by Charles Makray - managing director*

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### A very good yarn - book review by Julie Armour

I recall being on a tourist vessel in the Kimberleys auditing the operators safety a few years ago. I remember how remote and raw the country was and the excitement in being in such a unique area. At the same time I enjoyed my free time on board and at every opportunity would settle down to read one of the most fascinating books I have come across - "A Venomous Life" by Professor Struan Sutherland. As I began reading I became immediately saddened that the author had begun writing this autobiography on confirmation of the advanced status of Striato Nigral Degeneration, a condition which would rapidly begin to affect his speech and movement. This confirmation required him into forced retirement from his University posts and from the 24 hour advisory service he set up for doctors at the Australian Venom Research Unit. The ironic part is that this man who developed pharmacological solutions and treatment procedures that saved many humans from death associated with animal (both land and sea) and insect bites, was powerless to prevent his own demise.



*Sydney Funnel Web Spider*

The book starts off with one of those second world war childhoods in country Victoria where his family struggled with the restrictions the war imposed. What made this part of his story interesting was his eccentric relations who ultimately assisted him in funding his secondary education. They also contributed to his medical education but by his third year of study it was apparent he would not be able to continue to work and study effectively so he joined the Navy in order to complete his degree. He highlights all sorts of adventures he had in SE Asia with the Navy and the perfect ground for a young researcher with a thirst for challenges.

The next part of the book describes both the most exciting and tumultuous part of the professors' career with his work with the Commonwealth Serum Laboratory. It is one of the most frustrating chapters of an Australians' academic life where petty political bickering leaves our most brilliant scientists hamstrung. Why is it in Australia that we do not value our scientists and put them on the same level as those who earn far greater recognition and remuneration? Why do we value sports people and those in financial professions higher than we do such scientists who dedicate their lives to their work and are prepared to do it for a pittance? Professor Sutherland was involved in research for antivenom for some of Australia's most deadly creatures including the blue ringed octopus, spiders (Sydney Funnel Web, White Tailed) snakes (tiger, western taipan), box jellyfish and even the humble platypus. He developed venom detection kits which have been essential tool for Australian doctors to ensure they are providing the most appropriate treatment with the correct antivenom. One of the more significant discoveries was the development of the pressure immobilisation technique as a way of restricting venom flow through the body after such bites.

Again, with sadness it is noted that the professor is welcomed and paid for his services by foreign governments whilst the Australian government quibbles about paying the most basic laboratory facilities for a scientist with a proven track record. Ultimately the author was able to set up a new venom research facility where his lifes' work could be continued by budding young scientists. The disappointing part however is that now these budding young scientists are required to leave our shores to receive anywhere near acceptable remuneration that foreign countries are more than willing to pay. I recently met a young promising venom researcher who was required take up a post in Singapore purely because there was no future or support for his work in Australia. Why do we not value our scientists and those that have made such significant contributions to saving lives? This book describes a wonderfully venomous life that was experienced by a wonderfully dedicated and caring man. If you enjoy a good yarn with a bit of conflict by a real character then this is a book for you. It gave me great confidence that while I was in the remote part of the Kimberleys, one mans research dedication had allowed the development of antivenoms and treatment protocol which may save my life if I came in contact with any these creatures in such an environment.

*Julie Armour*