FIRST RESPONDER
November Newsletter

IN THIS ISSUE:

NEW COURSES RELEASED ON NATIONAL REGISTER

First Response Australia this month has released what is arguably the most extensive range of Emergency Care Training Courses in the country.

The project to develop the programs has taken over a year and has culminated in the first programs of their type to be accredited under the new national standards of the Australian Quality Training Framework.

A Training Product Advisory Committee was set up to oversee the development and comprised representatives from the Aeromedical, Mining, Marine, Recreational Diving, Tourism and Emergency Care Providers Industries.

The new bank of programs allows all industries to tailor their training needs in Emergency Care Response, meeting obligations regarding duty of care and comply with the first aid component of the National Health Training Package

The clinical content of all the programs was scrutinised by our Honorary Medical Director; Dr. Geoff King (Superintendent of the Qld. Royal Flying Doctor Service). Dr. King is at present in Ireland as the Director of "Prehospital Care Council" responsible for setting up the "Paramedical Ambulance System", so Dr. King's expertise has been invaluable especially in relation to our "Emergency Medical Technician" program.

This particular program is the flagship of the extensive range of courses and is delivered as a Certificate IV level qualification with some unique electives, particularly suited to industries that are located well away from access to normal Emergency Services.

Continued next column

Continued from previous column

Two organisations have taken immediate advantage of the new programs. The first, "Pajingo Operations", a gold mine out of Charters Towers has successfully completed the Certificate IV in Emergency Medical Response with electives in Intravenous Fluid Therapy and Advanced Airway Management for the use of Laryngeal Masks Airways in CPR. Ten participants took part in the training with five of the group taking advantage of the program to update and formalise their skills from previously "paramedical" training to the new competency based format. The mine will also extend the training to another tier with the new nationally registered "First Response" course which includes Defibrillation and Oxygen Resuscitation.

The second organisation, Great Adventures Outer Reef Cruises in Cairns has began the new Certificate IV program with the same electives. Having already trained over 50 personnel in the "First Response" program the company saw the "Emergency Medical Technician" Program as a natural extension, as the remoteness of their operations requires far more than "first aiders" being able to respond in an emergency.

Pictured above is the team from Pajingo Operations at the end of the 8 day "Emergency Medical Technician " program

The Certificate IV in Emergency Medical Response with its unique range of electives is set to become the leader in "pre-hospital emergency care" type programs. Many of the competencies are designed for on the job assessment for those already working as "Medics" that may not have recognised formal qualifications.

(see page 2 for complete list of programs)

Edited by Charles Makray - managing director

Visit us at *www.FirstResponseAustralia.com.au*

EMERGENCY CARE TRAINING AND SPECIALIST EQUIPMENT

PO Box 81 N, North Cairns, QLD 4870, Australia. Phone: (07) 4032-2444 Fax: (07) 4032-4722

email: admin@FirstResponseAustralia.com.au

First Response Australia's new range of programs.

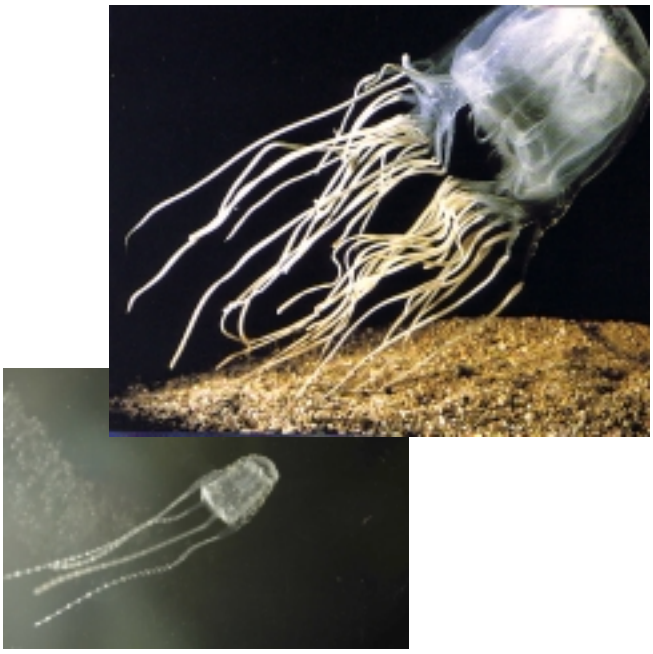
Certificate IV in
Emergency Medical Response

Electives:
Advanced Airway Management
IV Fluid Therapy
Wound Closure
Medical First Aid on board a Vessel
Non Emergency Patient Transport.

Certificate III in
Occupational Emergency Care
(Aviation), (Aquatics), (Casualty Room)

Life Support (Cardiopulmonary Resuscitation)
Workplace Emergency Care (Senior First Aid)
Advanced Resuscitation
Defibrillation
First Response
Spinal Injury Management
Pain Management
Asthma Emergency Management
Isolated Area Emergency Care
Aviation Medical Response
Aquatic Emergency Response
(Basic Lifesaving)
Aquatic Emergency Response
(Advanced Lifeguarding)

See our website for more details



Pictured above is the Chironex Fleckeri (top) and the Carukii Barnesi (bottom) both classified as potentially lethal stingers

First Response Australia to sponsor new "stinger" web site.

You may recall in one of our earlier newsletters that we reported the public health issue that occurred last year in North Queensland due to the unprecedented amount of people admitted into hospital from jellyfish stings.

Since then the North has seen a number of seminars held to alert the public and tourism operators of the potential problems relating to marine stings.

In response to the need for greater education Dr. Jamie Seymour and Michael Pieloor have put together an impressive web site which will become an important resource for the public and tourism operators to reference. The new web site cover topics such as latest research, first aid, general biology and more.

First Response Australia has become a sponsor of the web site and we look forward to working with Jamie Seymour in ensuring that locals and visitors to our region know how to prevent becoming victims and are also able to carry out the correct Emergency Care for such an incident.

Look up the new web site on
www.jcu.edu.au/stingers
or grab the link from our web site.

Visit us at *www.FirstResponseAustralia.com.au*

Question and Answers.

This is a new section in our newsletter and we would encourage our readers to send in questions relating to Emergency Care issues. We hope this section can further everyone's knowledge and skills. We will choose one or two each month and respond in this section, so put your thinking caps on.

Jason in Townsville asks what's the true definition of **SHOCK**. Jason, an experienced Paramedic and Emergency Care trainer (who knows the answer) suggests we explore this subject, as he continually finds students in his classes confused with the definition and cause of shock and this he tells us is at all levels of training.

Shock is a very misused term in First Aid and is often incorrectly used to describe a person who is psychologically distressed, as when someone is confronted with bad news, an unpleasant site or even a minor injury.

The correct definition of shock is: **"cellular dysfunction due to a lack of oxygen due to a lack of perfusion"**.
And we must remember that shock is a whole body process. Lets break that down into sections.
Firstly **"cellular dysfunction"** - cells are not functioning correctly because of inadequate oxygen supply. In a normal situation where cells are receiving adequate oxygen the metabolism is described as **aerobic**. In abnormal situations due to a lack of oxygen the metabolism becomes **anaerobic** resulting in high levels of waste products being produced. These waste products are acidic in nature and very harmful to the body.
Secondly **"lack of perfusion"** - not enough blood is being supplied to the capillary beds to allows oxygen to pass the cells. A lack of perfusion for instance can be the result of severe blood loss. This means that because the volume of blood has been depleted the amount of oxygen carrying protein found in the Red Blood Cells (RBC) is also depleted.

So if you imagine that the average adult body has about 5 litres of blood we don't find people going into shock when they have donated blood at the blood bank which usually amounts to approximately 500mls (about 10% of the total volume).

Continued next column

Continued from previous column

To be classified as shocked the adult body needs to loose about 15 - 20% of its circulating volume. Even then the body usually compensates quite well by increasing the heart rate, breathing rate, constricting veins which is all designed to keep the blood pressure normal and make sure the brain and heart get their fair share of blood with the much needed oxygen (perfusion). This stage is called **compensated shock**.
When a larger percentage of blood is lost, say 30%, then the body has trouble trying to compensate and the heart can't pump faster as it is not receiving the blood and oxygen it needs to do the job. The brain now suffers and the persons level of consciousness now begins to alter significantly. This stage is called **decompensated shock.** This is where we now start to see the classic presentation of shock; cold, clammy skin, rapid and weakening pulse and a drop in blood pressure. Once blood pressure begins to drop, this signals the body's inability to compensate. If professional care is not given to the patient their life is seriously threatened. Usually patients would receive intravenous fluids to replace the lost volume but this has a downside if internal haemorrhaging has not yet been controlled.
There are different **classifications of shock** and they are categorised according to the cause of the condition.

The most common form of shock is caused from blood loss and is called **hypovolaemic shock** (hypo=low, vol = volume, aemia = blood).

Another form of shock, caused from the inability of the heart to pump blood as in a prolonged heart attack is **cardiogenic shock** (cardio = heart, genic = origin). Although no blood is actually lost from the circulatory system, it simply is not being pumped around the body sufficiently to oxygenate the tissues.

Yet another form of shock is that which is caused by the fluid component of the blood seeping out of the blood vessels into the tissues because the release of certain chemicals (histamines) has occurred due to the intrusion of an antigen into the body causing an allergic reaction. This shock is called **anaphylactic shock** and results in volume being lost from the circulatory system. This shock occurs rapidly and the patient presents with massive swelling around the face, throat, airway and may also have narrowing bronchiole tubes (such as in an asthma attack). **This person requires injected adrenaline immediately.**

Continued next page

Question and Answers - Continued

Anaphylactic reaction: Some before and after shots. The pictures on the left are before Adrenaline was administered and those on the right are after.

There are still more classifications of shock, but the thing to remember that when shock is finally noticed (especially in the case of blood loss) it is a little too late. The body systems are failing to cope with the insult.
So, Emergency Care personnel need to understand the various causes of shock and assess the "mechanism of injury" to gain a suspicion of possible development of shock down the track. An example of this could be a scenario where a person is found lying on a footpath complaining of severe abdominal pain and unless the cause was investigated the carers may not know that the person was kicked repeated, inflicting great forces to the adbominal area, yet not apparent injury is obvious. This information may have to be elicited from the patient or bystanders and may be the only predictor of impending shock.
General Emergency care involves resting the patient, posturing them according to their injuries, administering oxygen, managing the cause and contacting the local EMS (Emergency Medical System) immediately.

There you have it.
Just a liitle about the subject of **SHOCK**

Is theAustralian Resuscitation Council sitting on the fence ?

Recently a study regarding the appropriatness of Pressure Immobilisation in the treatment of Jellyfish stings has sounded alarm bells within the first aid industry. Jamie Seymour (James Cook University) Peter Pereira (Emergency Department, Cairns Base Hospital) together with colleagues have produced strong evidence to see the removal of "Pressure Immobilisation" bandages in the treatment of dangerous tropical jellyfish. Unfortunately this view is not shared with the people who set the guidelines for first aid in Australia - the Australian Resuscitation Council. This particular body has over the last year has rejected some significant changes recommended by the international bodies in regards to Resuscitation and this latest "sitting on the fence" approach comes as no surprise to the practitioners of "Emergency Care" delivery. One can't help but ask "Is this due to a reluctance of some community based members to accept or adapt promptly to new changes , e.g. within their publications".
We now have strong scientific evidence that warrants the discontinuation of "pressure bandages" for box jellyfish victims. The ARC says that this evidence has not been clinically proven and until then still recommends the technique.

DO WE REALLY NEED TO GO AND HAVE LOTS OF PEOPLE STUNG ON PURPOSE TO PROVE THE POINT???

Without doubt box jellyfish venom travels through the **circulatory system** which is why the deadly effects are so instant, whereas Pressure Immobilisation is used to limit the travel of venom through the **lymphatic system**.

DON'T FORGET THAT THE "PRESSURE IMMOBILISATION TECHNIQUE " WAS SIMPLY TRANSFERRED FROM SNAKE BITE TREATMENT TO BOX JELLYFISH TREATMENT ON THE ASSUMPTION IT WOULD DO THE SAME JOB.

Until otherwise proven our organisation will teach that under no circumstances should the "pressure immobilisation technique" be used in the treatment of any stinger treatment.We hope that common sense prevails and the people at the coal face (lifeguards and first aiders) do not become pawns in the ridiculous political shenanigans that appears to occur behind closed doors within the Australian Resuscitation Council.

Edited by Charles Makray - managing director

EMERGENCY CARE TRAINING - DEFIBRILLATION AND OXYGEN EQUIPMENT
PO Box 81 N, North Cairns, QLD 4870, Australia. Phone/Fax: (07) 4032-2444
email: admin@FirstResponseAustralia.com.au