

First Responder



February '06 Newsletter

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- * Instructions for Use

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How well informed are First Aid instructors ?????

In our last newsletter we outlined the "new international guidelines" soon to be adopted here in Australia. These changes can only be described as the most radical change in the teaching and delivery of Resuscitation in the last two decades.

First Response Australia (FRA) has closely been following the developments of the evidence based science which has brought about the consensus resulting in the changes. Over the last two years FRA has adopted some of the concepts therefore resulting in a smoother transition for change and ease in teaching. Over the last year the amount of criticism levied at us regarding these upcoming changes has flabagasted us. A classic and repeated example of this was the outright refusal by many trainers to accept that resuscitation could be taught and administered without the use of "pulse checks". Our adoption of this concept was sighted as "negligent" by some of our competitors.

So we sought to find out just how well informed the average "First Aid" instructor was. Bearing in mind that a huge sector of trainers have come from an "Ambulance Service". This would have you believe that these trainers are well informed.

Knowing many owners of "first aid" training companies (some large, some small and some single operators), we posed the following question to them: "do you or your trainers or trainers using your product under license have access to or regularly access the following:

1. Australian Resuscitation Council guidelines
2. European Resuscitation Council guidelines
3. American Heart Association guidelines
4. Websites of the above
5. The converted European Resuscitation Journal
6. International Resuscitation Guidelines 2000
7. Consensus of Science 2005
8. 2005 Resuscitation Guidelines for Europe and America

The majority of those we spoke to were familiar with only a small fraction of the above references and generally were only familiar with the first aid text they were currently using. ***In fact less than 60 people in Australia had subscribed to the most informative of relevant journals; the European Resuscitation Journal***

For the last 2 years, those that are informed have known about the dramatic changes that were coming. However, in Australia, it seems that a veil of secrecy has prevailed. Indeed some members of the Australia Resuscitation Council have had access to the draft relating to these changes and had to sign confidentiality agreements requiring them not to divulge any information relating to the changes.

It appears that most "first aid" trainers in this country are treated like mushrooms. Lets hope that the future education of "first aid" trainers improves because the goal has to be; that people, whether at home, play or in the workplace, have the latest knowledge and skills to repond to emergencies.

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Lack of "first aid" leads to hefty fines.

How well is your workplace prepared with "emergency care" procedures??

A major fast food chain has received a "wake-up call" after a young worker was seriously injured in a preventable incident and no first-aid procedures were in place.

Hungry Jacks Pty Ltd was last week prosecuted over the incident in the South Australian IR Court.

Industrial Magistrate Michael Ardlie heard that in July 2003, a shift manager asked a 17-year-old employee to assist him with the task of emptying oil from the restaurant's deep fryers.

The worker helped by transporting oil outside to the disposal area, using a bucket with no lid. On his second trip, the worker slipped and fell, causing hot oil to splash from the bucket up onto his face and arms.

A staff member's parent drove the worker to a hospital, which didn't have a burns unit. The worker had to be transferred to another hospital but this couldn't take place immediately because he had gone into shock and first had to be stabilised for about two hours.

The worker suffered scarring to his arms and face, recurring dermatitis on the arms, a psychological reaction and sensitivity to sun exposure.

Industrial Magistrate Ardlie heard that the supervisor had been wearing some items of personal protective equipment (PPE) for the task of changing the oil, but hadn't instructed the worker to do the same.

The worker had only performed the task once, during which he wasn't properly trained and wasn't aware of the availability of PPE.

Industrial Magistrate Ardlie heard that as well as there being no safe operating procedure for changing the oil, there was no system for administering first aid to an employee who suffered serious burn injuries. No one on site at the time of the incident had relevant first aid training and experience.

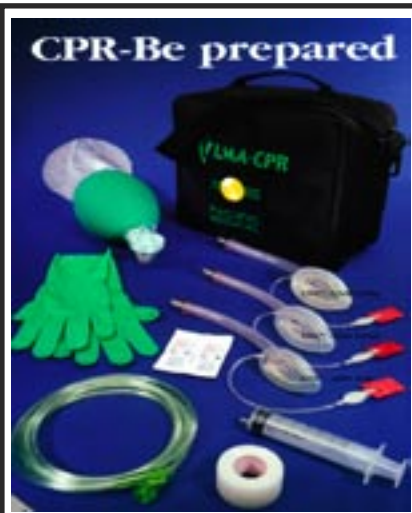
Further, there was no system for emergency transportation of injured workers, in that there was no policy as to when an ambulance should be called.

After the incident, Hungry Jacks Pty Ltd implemented a number of changes across its operations, which included: purchasing oil disposal units (which prevent exposure to the oil as it is drained into a sealed chamber); requiring that the oil only be changed when cool; strictly enforcing the wearing of PPE; and implementing a better system of training. It also put in place procedures for calling ambulances and provided relevant first aid training.

Industrial Magistrate Ardlie noted that the incident had served as a "wake-up call" to the employer and its new procedures and approach to instruction, training and supervision were a positive reaction.

He recorded a conviction and imposed a fine of \$21,000.





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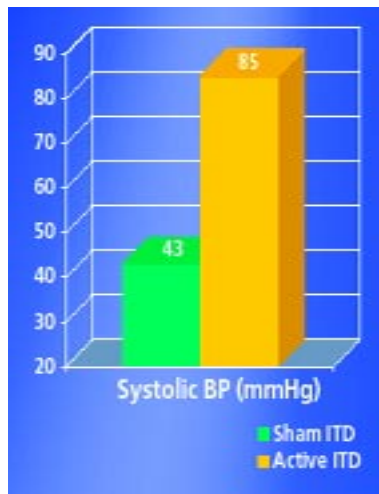
PRODUCT REVIEW: "ResQPOD" Impedance threshold device

An exciting new device called the RESQPOD is soon to be released in Australia. This device; an impedance threshold device (ITD) may see survival rates from sudden cardiac arrest dramatically increase. As we know with conventional CPR blood flow to the heart itself is approximately 15% of normal and blood flow to the brain is about 25% of normal. This coupled with late defibrillation puts current survival rates at a dismal 5-10%.

The ResQPOD is designed to be an inexpensive way to non-invasively enhance circulation in CPR. The main benefit of the device is that it enhances the vacuum in the chest that is formed during the recoil phase of CPR. The device works by impeding inflow of respiratory gases into the lungs during the chest wall recoil phase of cardiac compressions. Studies have shown that this process draws more blood back to the heart (increases preload), and increases cardiac output, blood pressure, perfusion to vital organs and survival rates. Rescuer assisted ventilations (EAR/IPPV) override the impedance valve within the device and allow resistance free ventilation.

The device can be fitted just to a pocket mask, Laryngeal Mask Airway or an Endotracheal Tube.

The ITD is fitted with timing lights to control ventilations rates, avoiding the deleterious effects of excessive ventilations. In testing the device the manufacturers found that once a patient had been intubated by healthcare workers, it was not unusual to find ventilations rates well above 30/minute. It is now known, that if ventilation rates exceed 12/minute, the continuous inflation of the lung produces dramatic impedance in cardiac output because the heart is prevented from refilling sufficiently. Lots of oxygen getting to the lungs but unfortunately not going anywhere due to the compromised circulation.



Bar graphs above and on the left show the dramatic increase in blood pressure during the use of the ResQPOD and survival rates

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Human studies have demonstrated that the ResQPOD increased circulation and survival in hypotensive patients. In one study in the USA, cardiac arrest patients undergoing conventional CPR, systolic blood pressure and 24 hour survival rates in patients presenting in cardiac rhythms other than asystole doubled.

Without doubt we will see this device become the standard of care for the treatment of prehospital patients in cardiac arrest. The use of the ITD is quick and easily taught to Basic Life Support personnel, who can attach the device to a facemask or Laryngeal Mask Airway (LMA). This permits the inspiratory impedance technology to be initiated earlier in the "chain of survival".

Adding an ITD to standard resuscitation care has improved the overall short term survival by 50% and tripled survival in patients with asystole (traditionally those with the poorest outcome).

As soon as it is released in Australia we will let you know.



Sydney Airport First Responders adopt the use of Laryngeal Mask Airways

Sydney Airport Corporation has adopted the use of Laryngeal Mask Airways (LMAs) as part of their medical emergency response equipment. Besides looking after day to day operations within the airport, Terminal Services Co-ordinators (TSCs) are also tasked with responding to medical emergencies.

They are often the first "qualified" responders on scene and are confronted with situations that range from a stubbed toe to Sudden Cardiac Arrests (SCA). The later unfortunately is not rare given the sheer numbers and demographics of air travellers and visitors moving through the airport. History has shown that airway management has been the most difficult aspect of dealing with a SCA. Another difficulty encountered has been the problem of running to the scene carrying sometimes cumbersome oxygen and defibrillation equipment housed in separate systems.

This month has seen the addition of purpose built "Medical Response Kits" be deployed in strategic locations which should enable quicker response to emergencies. The kits can be carried or worn as a back pack and house oxygen resuscitation, defibrillation, advanced airway management and trauma equipment.

Already trained in the use of oxygen and defibrillation procedures the TSCs were trained in the use of LMAs enabling the rapid and easy securing of an airway during resuscitation. The terminal responders can find themselves in these emergencies with only bystanders present to help them, so training had to be based on the fact that the initial response would often be by a single responder. The training focused on the responders being able to ensure chest compressions were started or continued by the bystanders, rapid attachment of defibrillation pads, rapid securing of the airway and defibrillation and ventilations as required.

At the conclusion of the training the TSCs were surprised at how easy and quick it was to intubate the patients with the LMAs. This training will be repeated every 4 months to maintain a high skill competency.

The Last Word

What a big year ahead of us for changes !!

We will see the teaching and delivery of resuscitation simplified. We will see Debrillation procedures go back to the original philosophy of "never shock a blue heart" by employing a one shock only algorithm. We will see the upskilling of "First Responders" in many workplaces utilising these simplified techniques along with a utilisation of skills that were considered the domain of "paramedics", not because its trendy or a fad but because the skills *are* required to make the difference. But unfortunately it may be many months before larger training organisations utilise the changes, due to their inherent difficulties in facilitating change easily and trying to in some cases, teach "old dogs new tricks", so in the meantime make sure the provider you choose is up to speed. Once instigated and common practice in teaching and delivery, we should see an increase in survival rates of Sudden Cardiac Arrest. *That's what its all about!!*

*Charles Makray
Managing Director*

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