



# FIRST RESPONDER September '03 Newsletter

*Continued from previous column*

Thirteen teams participated in three gruelling days of challenge in events which tested their skills in disciplines such as Multi Casualty, Road Accident and Time Critical, Vertical Rope Rescue, Search and Rescue, Endurance, Technical Team, Pre-hospital Care and Leadership. Congratulations to all the teams that competed at the "Challenge". First Response Australia is proud to be associated with the Ernest Henry team and look forward to training more 1st class medics.

## IN THIS ISSUE:

- \* Ernest Henry Mine medics take out Rescue Challenge again
- \* Prone CPR
- \* Is EAR really required during CPR?
- \* Senior First Aid / CPR in Japanese
- \* Advanced Airway Management really a first aid skill

## Ernest Henry Mining takes out "best pre-hospital care" in 2003 Rescue Mining Challenge



*Medic Ed Holloway tends to patients in the Multi Casualty Triage event*

Congratulations to the Emergency Response Team at Ernest Henry Mines (Cloncurry). For the second year in a row Ernest Henry Mines has won many of the awards in the Queensland Mine Rescue Challenge.

In particular the Emergency Medical Technicians (trained by First Response Australia) have for the second year running received recognition as the best "pre-hospital care" team.

First Response Australia was a sponsor for the event which aims to improve skills and techniques that may be required by Mines Rescue Teams.

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## MORE ON THE TRENDS IN RESUSCITATION

Last month's Newsletter described some of the subtle changes that innovative training organisations are implementing in the teaching of Resuscitation. This issue of "First Responder" further expands on those changes and challenges some traditional ideas. Unfortunately many providers delivering First Aid succumb to mediocrity and never stop to ask themselves - WHY DO WE TEACH IT THIS WAY? and IS IT REALLY WORKING?

It's quite amazing to know that since the inception of CPR in 1960, it is performed today essentially as it was some 40 years ago. However, the last 10 years has seen increasing recognition that traditional CPR has failed as a broad public health intervention with survival rates of out-of-hospital cardiac arrest still at < 5% for most Emergency Medical Systems (EMS). The deployment of Automated External Defibrillators (AEDs) has shown to significantly change this statistic in many studies but CPR is still needed to buy time for the patient.

This lack of change in techniques is even more remarkable considering the well-known and persistent problems of bystander's reluctance to initiate CPR along with the poor retention of skills in what is still a complex series of motor skills. The skill procedures taught today are now being challenged as being irrelevant to the desired outcomes. Even expertly performed CPR is now being questioned, especially in relation to concerns about frequent injury to the chest cavity and internal organs, possible negative effects of EAR such as aspiration due to regurgitation and difficulty in perfusing the coronary arteries when compressions are continually interrupted for ventilations.

*Edited by Charles Makray - managing director*

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# FIRST RESPONDER

## September Newsletter

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### CPR (ratio 60:2) - are ventilations that important?

As reported in our last newsletter some studies are showing that if external cardiac compression (ECC) is started immediately after assessing that a patient has collapsed into sudden cardiac arrest (SCA), ventilations (EAR) may not be required for some minutes.

A physiological and mathematical analysis was carried out during a study in the USA and concluded that current guidelines overestimate the need for ventilations during standard CPR by two to four fold. Blood flow and oxygen delivery to the periphery can be improved by eliminating interruptions of chest compressions for unnecessary ventilations. The study concluded that at least half the ventilations are unnecessary. By simply converting from 15:2 to a 50:2 compression to ventilation ratio, a modest but meaningful 7-33% improvement in oxygen delivery is achieved and possibly as much as an 18-80% in overall benefit. One example would be the common occurrence of gastric inflation with subsequent regurgitation and aspiration.

The researchers suggested and hoped that adjustment of compressions to ventilations ratio for basic life support could be accomplished quickly worldwide. Unfortunately changing presently accepted guidelines requires proof of safety and efficacy of a new method.

However innovatively subtracting what the researchers describe as unnecessary ventilations may be an easier task. By eliminating interruptions of chest compressions the quality of standard CPR may be increased without penalty and essentially without cost. Why wait??

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Much of the employment for Japanese visitors is centred around tourism, such as tour guiding and recreational scuba diving. These industries by their nature impose strong "obligations" to provide safe environments for their clients. Although providing First Aid is only a small part of Workplace Health and Safety requirements, attaining First Aid qualifications in Japan is quite rare, so the opportunity to gain these skills whilst in Australia is greatly sought after.

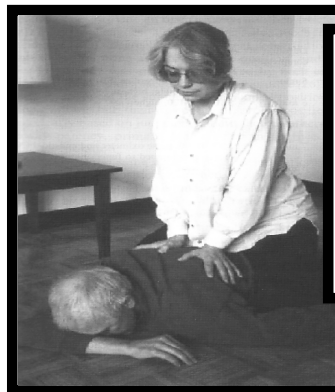
The Japanese courses are available via distance education, on site training, co-provider arrangements or site license

### PRONE CPR (flip the patient)

A study of reverse CPR on a small number of critically ill intensive care patients found significant increases in blood pressure and blood flow through the arteries compared to standard CPR .

After 45 minutes of standard CPR the patients were flipped onto their stomachs and cardiac compressions continued by compressing the spine by placing the hands in standard CPR position but over the thoracic spine at T7-T10. The patient was intubated so ventilations were carried out via an Endotracheal Tube.

Although none of the patients survived researchers claim the results demonstrate that CPR applied to the back may have distinct advantages.



#### ***Rescuer and patient position recommended for prone CPR***

For the lay person the difficulty arises in maintaining ventilations, but given that in some cases of cardiac arrest, compressions may be deemed far more important than ventilations, this techniques of "reverse CPR" will definitely attract further study.

### Another first for First Response Australia.- Japanese First Aid

Last month First Response Australia launched its Nationally Accredited "Senior First Aid" and "CPR" programs in Japanese. The project to translate all the learning materials and assessment tools of the Senior First Aid program has taken over a year. Market research indicated a huge need and demand for such a product. Australia and especially Queensland and New South Wales enjoy thousands of visitors and temporary residents from Japan that are employed in a variety of workplaces.

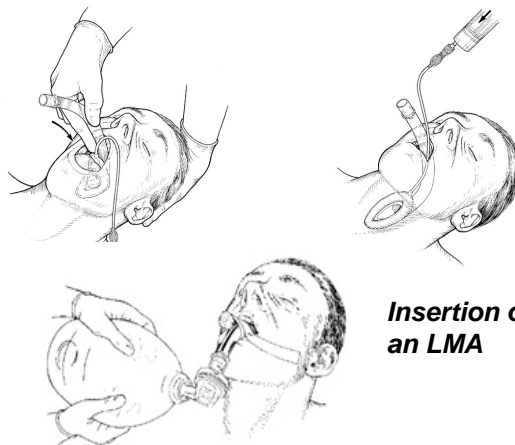
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**Insertion of an LMA**

## Advanced Airway Management for First Responders



**CPR-Be prepared**

Automated External Defibrillators and Oxygen Resuscitators have for some time been used by First Aiders and Responders. Many medical professionals are now also advocating that Advanced Airway Management should be included in this list.

Up to now the use of Laryngeal Mask Airways (LMAs) have been restricted to Emergency Medical Technicians and Ambulance Officers in the pre-hospital setting.

This has now changed with the availability of cheap single use models and the training required to master their use is quite simple. In fact, simpler than acquiring the skills to use a Bag Valve Mask Device, LMAs can be used to establish an airway in any unconscious patient who exhibits no gag reflex and has a relaxed jaw, similar to the requirements to insert an Oropharyngeal Airway.

Since launching its new bank of courses in October of last year, First Response Australia has now included the Advanced Airway Management Module as a standard unit of competency in its popular Certificate IV Emergency Medical Technician Program. The unit is also available as a stand alone program making it available to First Aiders and First Responders.

Many studies have shown that LMAs provides a superior airway in comparison with a Bag Valve Mask Device. These studies have shown a large incidence of aspiration of the patient's lungs when Bag Valve Mask Devices are used (even by medical professionals) whilst the use of LMAs has resulted in less than 1% incidence of aspiration. The advantages of an LMA over conventional methods (mouth to mask, Bag Valve Mask) are: minimal skill required, low complication rate, rapid airway establishment, rapid skill acquisition and good skill retention. Unlike other Advanced Airway techniques which require training and assessment on real patients the LMA can be mastered on manikins only.



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The Australian Resuscitation Council, the American Heart Association and the European Resuscitation Council state that the contraindication for the use of an LMA are:

1. Rescuer not competent in the insertion of LMA
2. Presence of a gag reflex.

Given the high incidence of regurgitation and subsequent aspiration in resuscitation employing conventional techniques the LMA is proving a superior alternative with over 100 million uses with no morbidity or mortality.

### EMERGENCY MEDICAL TECHNICIAN CERTIFICATE LEVEL IV PROGRAMS

#### CAIRNS

October 24, 2003 (8 days full-time)

#### SYDNEY

December 10, 2003 (8 days full-time)

### RECERTIFICATION COURSE

#### CAIRNS

November 15-16, 2003 (2 days full-time)

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