

## NEW ZEALAND RESUSCITATION COUNCIL GUIDELINES 2011 CORE LEVEL 1, 2 and 3 IMPLEMENTATION

The changes to the guidelines for CORE levels 1-3 reflect the most recent scientific evidence which was evaluated and recently published by the International Liaison Committee on Resuscitation (ILCOR) and its member organisations, including the New Zealand Resuscitation Council.

The guidelines continue to emphasise the importance of commencing resuscitation and providing good quality CPR. Resuscitation should be commenced where the person is unresponsive and not breathing normally. The recommended compression / ventilation ratio remains at 30 compressions to 2 ventilations. The NZRC also recommends that if a person is unwilling or unable to provide full CPR (i.e. chest compressions plus rescue breathing) then they should provide continuous chest compressions at a rate of just over 1 compression per second.

The revised guidelines for Basic, Advanced, Paediatric and Neonatal Life Support are available at [www.nzrc.org.nz](http://www.nzrc.org.nz) and for the first time have been jointly developed and published with the Australian Resuscitation Council (ARC).

The process of change is often difficult, but trainers and the public should be reassured that they do not reflect an attitude that past guidelines were wrong, but rather that scientific research indicates that we should pursue differing priorities in order to optimize the success of resuscitation.

The following comments indicate the main points relating to the appended algorithms for Levels 1, 2 and 3 Adult and Child/Infant Resuscitation. These changes may be implemented by resuscitation trainers immediately.

### **Resuscitation Techniques - Summary**

- The need for CPR continues to be determined by unresponsiveness and the absence of normal breathing.
- The initial check for normal breathing should be no more than 10 seconds.

- The absence of response and absence of normal breathing is all that is required to indicate that CPR should be given. Begin CPR immediately by the delivery of chest compressions.
- The correct hand placement for adults is found by placing the heel of one hand in the “centre” of the chest with the other hand on top.
- In children over 1 year the correct hand position is found by placing the heel of one hand in the “centre” of the chest. For an infant under one year use two fingers just below the imaginary line between the nipples.
- The correct compression depth is approximately 1/3 of the chest depth. For adults this is at least 5cm of compression. For children this is approximately 5cm of compression, for infants 4cm.
- The rate of chest compressions remains at 100 compressions per minute.
- The ratio of compressions to ventilations is 30:2.
- Each attempted rescue breath should be delivered over 1 second.
- For adults, if the rescuer is alone, go for help immediately the casualty is determined to be not breathing normally.
- If the rescuer is alone encountering an unwitnessed collapse of an infant or child the rescuer should start CPR immediately and then obtain assistance. As a “rule of thumb” this should be considered to be 1 (one) minute of CPR before going for help.

## **The DRS – ABCD Approach**

### ***Dangers***

Check for dangers. Ensure your own safety and that of others before attending to the casualty. Ensure that the casualty is out of further danger (consider moving the casualty).

### ***Responsiveness***

Check responsiveness; Shout “are you alright” and tap the casualty on an uninjured part.

### ***Send for Help***

Shout for help; ask a bystander to call 111 or activate the emergency response system. Ask the bystander to return immediately to confirm that the call has been made.

### ***Airway***

Open the airway by applying head tilt and chin lift. Remove obvious causes of airway obstruction.

### ***Breathing***

Taking no more than 10 seconds, check for the presence of normal breathing.

*If normal breathing is present:* place the casualty in the recovery position if they are unconscious. Check for bleeding and, if present, stop this with direct pressure.

*If normal breathing is absent or you are uncertain commence CPR:*

### ***CPR***

Start CPR – cycles of 30 chest compressions followed by 2 attempted ventilations.

### ***Defibrillation***

Attach the AED as soon as it is available. Follow the voice prompts.

### ***Compression Only CPR***

- If a rescuer is unable or unwilling to provide mouth-to-mouth rescue breathing, it is acceptable to perform chest compressions alone i.e. chest compressions are provided at a rate of 100 compressions per minute without rescue breathing.
- Once it becomes possible to reintroduce rescue breathing, this should be provided at a compression: ventilation ratio of 30:2.

## Foreign Body Airway Management (FBAO)

### Management of Partial FBAO in adults, children and infants

- In witnessed foreign body obstruction, when the casualty is conscious and appears to be breathing adequately, they should be encouraged to cough and try to spit out the foreign body. Initially nothing else should be done.

### Management of Complete FBAO in adults, children and infants

- In the presence of complete airway obstruction the lung is pressurised by applying back blows or chest thrusts.

#### *For Adults and Children*

- Start alternating cycles of five back blows and five chest thrusts. Give the back blows first.

- Back Blows

A back blow is a blow to the back of the casualty that creates an artificial cough intended to move and expel an obstructing foreign body from the airway.

1. Stand to the side and slightly behind the casualty or, in the case of a child, place the child across the rescuer's thighs with the head held lower than the chest.
2. Support the casualty's chest with one hand and lean him/her well forward so that when the obstructing material is dislodged, it comes out of the mouth rather than going further down the airway.
3. Give up to five sharp blows between the shoulder blades with the heel of your other hand. With back blows the aim should be to relieve the obstruction with each blow, rather than necessarily to deliver all five.

- If these back blows fail, try chest thrusts.

- Chest Thrusts

The chest thrust manoeuvre is an attempt to create an artificial cough intended to move and expel an obstructing foreign body from the airway.

1. Stand behind the casualty, wrap your arms around their chest and make a fist with one hand.
2. Place one fist, thumb side, against the middle of the breastbone.
3. Grasp the fist with the other hand.

4. Give a quick inward thrust.
  5. Repeat as necessary until the obstruction is relieved. Each new thrust should be a separate and distinct movement delivered with the intent of relieving the obstruction, rather than necessarily delivering all five. The force should be suitably modified for children.
- If the chest thrusts do not dislodge the obstruction, continue to repeat the cycle of five back blows and chest thrusts.

### ***For Infants***

The principles are the same as with adults and children, the rescuer attempts to create an artificial cough to expel the foreign body. In infants the back blows and chest thrusts are suitably modified.

1. *Deliver five back blows initially.* Holding the casualty in the prone position, deliver five smart blows to the middle of the back between the shoulder blades. The head should be lower than the chest during the manoeuvre. This is best accomplished by holding an infant along the outstretched arm and firmly holding the jaw. The aim should be to relieve the obstruction with each blow, rather than necessarily to deliver all five.
2. If five back blows have failed to dislodge the obstruction, turn the infant over and deliver *five chest thrusts* to the breastbone with the casualty in the supine position. Although similar to chest compressions used for CPR, these should be sharper and at a slower rate (20/min).
3. These cycles of back blows and chest thrusts are continued, either until the obstruction is relieved, or until the infant becomes unresponsive.

### **Management of Unconscious FBAO in adults, children and infants**

- Unconscious FBAO management remains the same. Commence CPR with a compression/ventilation ratio of 30:2.

## **First Aid Trainers**

The NZRC acknowledges that it will take time for courses and educational material to be updated and for changes in practice to be implemented by lay trainers. It is expected that as the transition is made there will be some variation in practice between individuals and training organizations. How changes are implemented at levels 1 and 2 will vary and be at the discretion of the training organization. However the new guidelines may be implemented as from now.

## **NZRC Resources**

### *Emergency Care for First Responders (Level 3)*

The *Emergency Care for First Responders (Level 3)* text will continue in its present format until new stock becomes available. Because the changes to this document are relatively minor an additional explanatory sheet will be inserted into the front of this text explaining the small number of changes that have been introduced.

### *Wallet Cards (Level 2)*

The adult and child wallet cards will be changed and reprinted as soon as possible. Hopefully these will be available by the end of this April 2011.

### *Resuscitation for the Lay Rescuer Level 2 Text*

This text will be completed as soon as possible.