

New Resuscitation Guidelines 2010

Notes for Trainers

On October 18th the European Resuscitation Council and the Resuscitation Council (UK) jointly published the new Resuscitation Guidelines 2010.

There are no *major* changes to the 2005 guidelines, although there are some subtle, **yet very important** amendments that reflect the latest scientific evidence available on resuscitation.

Here is a summary of the changes to the Basic Life Support Guidelines:

1) When obtaining help, ask for an Automated External Defibrillator (AED) if one is available.

AEDs are becoming more and more widespread in public places and in the emergency services. An AED should be viewed as a standard piece of first aid equipment and remains the single biggest factor in survival rates of sudden cardiac arrest. In the UK approximately 30,000 people sustain cardiac arrest outside of hospital each year. The chances of survival decline at a rate of about 10% with every 1 minute delay in providing a defibrillation shock.

The new guidelines say that *'training in the use of an AED is desirable but not essential'*. Attempting to use an AED without prior training is likely to result in a better outcome than CPR alone (and the machines are very safe), although chances of survival can be increased significantly if training is provided, as this is likely to reduce interruptions in chest compressions and reduce the time taken to deliver the first shock.

2) Compress the chest to a depth of 5–6cm and at a rate of 100–120 per minute.

Previous guidelines indicated a depth of 4-5cm at a rate of 100 per minute. The changes reflect evidence that chest compressions, both inside and outside hospital are often undertaken at insufficient depth and at the wrong rate, both of which are associated with reduced survival rates. In theory, telling people to 'push harder' will improve on the actual depth achieved.

Interestingly, studies have shown that untrained laypeople generally deliver chest compressions too slow, whereas medical professionals tend to deliver compressions too fast. If chest compressions are delivered outside the new guideline rates of 100 to 120 per minute, coronary perfusion drops significantly. When was the last time you checked your perception of 100 per minute? If you go at the new upper limit of 120, that's 2 beats per second. Practise it!

3) Give each breath over 1 second rather than 2 seconds.

This is not actually a change, as the 2005 guidelines also indicated 'take about 1 second to make the chest rise', though the Resus Council (UK) have indicated this as one of the changes. It is likely that this is to further highlight the importance of minimising interruptions in chest compressions, which commonly happen and are associated with a reduced chance of survival.

4) Do not stop to check the victim or discontinue CPR unless the victim starts to show signs of regaining consciousness, such as coughing, opening his eyes, speaking or moving purposefully AND starts to breathe normally.

The 2005 guidelines indicated stopping if 'normal breathing' resumed – which often resulted in rescuers interrupting chest compressions to confirm. The new guidance advocates stopping only if you see signs of the victim regaining consciousness. Note the terminology 'moving purposefully' – which excludes anoxic convulsions or spasms that can happen normally during a cardiac arrest.

This again reflects the need to prevent unnecessary interruptions in chest compressions, but also highlights the need to teach first aid students about 'agonal gasps' (see below).

5) Teach CPR to laypeople with an emphasis on chest compression, but include ventilation as the standard, particularly for those with a duty of care.

This is a welcome clarification that teaching rescue breaths is necessary. 'Those with a duty of care' includes workplace first aiders, those who work with children, lifeguards etc.

There is a subtle but significant change in the guidance on when to give CHEST COMPRESSIONS ONLY:

- The 2005 Guidelines said to give compressions only *CPR 'if you are unwilling or unable to give rescue breaths...'*
- In the new 2010 guidelines this has changed to *'if you are **not trained to**, or are unwilling to give rescue breaths...'*

This makes it clear that if you are not trained in CPR, chest compressions only is better than no CPR at all, though victims of drowning and children will have little or no oxygen in the blood at the point of cardiac arrest, so for these casualties rescue breaths are essential. Even with a cardiac arrest of cardiac origin (caused by a heart attack) the residual oxygen in the blood will last 5 minutes at the longest. Even with an open airway (the patency of which can only really be tested by giving a rescue breath!) the air drawn in and out of the lungs by chest compressions alone is not sufficient to oxygenate the lungs because of the 'dead air space' in the airways.

For this reason you should always train first aid students to give full CPR including rescue breaths, and you should only certify competence in CPR if the delegate has demonstrated effective rescue breaths.

Studies on telephone CPR (advice given over the phone, not doing CPR with a telephone!) have shown how attempting to give rescue breaths when the layperson has not received prior training leads to considerable interruptions in chest compressions. Therefore chest compression only CPR is the preferred option if someone has NOT received training in CPR.

6) Teach about agonal gasps.

Around 40% of cardiac arrest victims gasp initially in the first few minutes of cardiac arrest. These are called 'agonal gasps' and are often mistaken for breathing, so CPR is not started. The new guidelines say *'it should be emphasised during training that agonal gasps occur commonly in the first few minutes after sudden cardiac arrest; they are an indication for starting CPR immediately and should not be confused with normal breathing.'*

If you would like to learn more about agonal gasps, there are links to some youtube videos in the 'news' section of our website at www.qualsafe.com/shop

Paediatric Guidelines - A note to avoid confusion

The paediatric guidelines for laypeople / first aiders remain unchanged. The Resus Council (UK) website may cause some confusion if you go to the 'paediatric basic life support' section, as this section advocates a compression/breaths ratio of 15:2. This guidance is only for "Health Care Professionals with a Duty to Respond"

The definition of "Health Care Professionals with a Duty to Respond" has previously been clarified by the Resus Council (UK) as "Nurses, Doctors, Ambulance Crews or other medical professionals who, as their everyday job would expect to perform paediatric resuscitation". It was further clarified that this does **not** include general nurses, GPs, first aiders, teachers or childminders.

The correct section to look at for first aiders/childminders is actually at the end of the **Adult Basic Life Support Guidelines**, under the heading '**Resuscitation of children and victims of drowning**'.

Amendments to Existing Books

Because the guideline changes are so subtle **we recommend that you do not issue an amendment sheet with the existing editions of the books**. There is lots of evidence on the necessity to keep the guidelines simple, and the changes for 2010 are so subtle that issuing an amendment sheet with the existing books is likely to be counter productive from an education perspective. It is likely to complicate, rather than simplify the advice.

If you would like to teach the new guidelines using the existing books, you can simply ask your students to change the compression depth of adult CPR to "5 to 6cm". The rest of the guidance in the existing books is compatible with the new guidelines 2010.

We do, however, acknowledge that we have promised to produce an amendment sheet that can be given out with the books, so if you do prefer to issue an amendment sheet, this can be downloaded at: www.qualsafe.com/downloads.html

New Books

We hope to have brand new editions of the books, incorporating the new resuscitation guidelines and new, modern graphic designs on press in January 2011. We will contact all existing customers by email as soon as these are available. Please ensure that we have your correct email address so that you are kept up to date!

Implementation

The Resuscitation Council (UK) gives the following advice on implementation:

"It will take time for courses and training materials to be updated and for this change in practice to be disseminated to healthcare professionals and laypeople by resuscitation trainers. As this transition is made there will inevitably be some variation in practice between individuals and healthcare organisations. Healthcare organisations should implement those components of Guidelines 2010 relevant to them by the end of 2011.

Guidelines 2010 do not define the only way that resuscitation should be achieved; they merely represent a widely accepted view of how resuscitation can be undertaken both safely and effectively. The publication of new treatment recommendations does not imply that current clinical care is either unsafe or ineffective."

The full Resuscitation Guidelines 2010, including references to research can be found at www.resus.org.uk

Finally, thank you for your continued, valued custom. If you have any questions on the new guidelines please don't hesitate to contact us!

From Nigel Barraclough, and all the team at Qualsafe.com