



INFORMATION

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Defibrillators

The Automatic External Defibrillator (AED) is seen by many as a panacea to all resuscitation emergency problems. The AED will tell whether the casualty has a heart beat, the AED will tell if there is a need to start external chest compression and indeed, the AED will not only tell what the problem is but it will also do something about it.

The reality of the situation is perhaps a little different. There is no question that, in many cardiac emergencies, early application of extended life support can mean the difference, quite literally, between life and death and there is a wealth of documented medical evidence to support both the provision and use of AEDs in a wide range of working environments. However, an AED works on the basis that it will deliver electrical stimulation to the heart to restore a regular heart beat but only in situations where the heart beat is irregular and therefore recoverable.

To give you an example, in a recent asphyxiation emergency, by the time that first aiders had been alerted to the scale of the problem and were able to reach the casualty, the casualty had been unconscious and without either respiration or heart beat for a considerable length of time. Basic Life Support was started immediately and two persons carried out CPR for some twenty minutes until the paramedics arrived. On arrival, an assessment of the casualty's condition indicated that without CPR there was no cardiac output and in this situation the use of an AED to do other than monitor a heart beat was of no practical value whatsoever to the extent that the AED at no time advised electric shock as being necessary as there was no detectable and shockable rhythm to restore.

One of the first aiders, a qualified and experienced lifeguard, was both surprised and disturbed at the reaction both of the paramedics and the response from the AED monitor itself until it was explained to her in detail exactly why the AED behaved in the way that it did.

There is no question that AEDs have an important role to play in cardiac emergencies, but only where an interruption to the cardiac output and rhythm is the direct result of a clinical complication. Furthermore, staff may become too dependent upon the AED undertaking their emergency role and becoming totally reliant upon the AED to do the job for them.

Notwithstanding the concerns that may be expressed over the actual value of AEDs, the implementation of an AED programme for a local authority with even just one swimming pool or sports facility carries with it a number of significant implications. An AED is an expensive item that must be maintained properly. Although maintenance costs could be considered to be quite reasonable given the nature of the equipment, they do represent a significant on-cost. In addition, it is absolutely crucial that staff receive detailed and very specialised training in the application of the equipment itself and maintain their CPR training to, at the very least, the Resuscitation Council's basic

life support level. Furthermore, it is essential that staff undergo regular retraining in the application of the equipment, which is generally recommended to be between 60 and 90 days and undertake regular reassessment of their overall competence.

Implementing an AED programme is not, therefore, a straight forward process and does require a great deal of forward planning and acceptance of the not inconsiderable on-costs and one must consider the actual value of this type of investment.

Birmingham City Council has been working in partnership with West Midlands Ambulance Service and the RLSS to run a 2-year pilot study on the effectiveness and value of AED equipment in the sports and leisure facilities and 14 units have been in operation at both wet and dry facilities around the city. This pilot project is now drawing to a close and the City Council is evaluating the outcome of the project, a factor of which relates to the fact that, over the 2-year period and with many millions of bathers and sports participants passing through centre doors, an AED has not had to be used in a life and death emergency.

On the positive side the provision of the equipment was extremely well received by staff and the importance of ongoing training and regular reassessment recognised by all, and has certainly led to there being an exceptionally high standard of ability and skill for all the staff concerned with the project.

Whether or not there is any practical purpose to be served by installing defibrillators in swimming pools depends upon a number of factors starting from a basic risk assessment.

Defibrillators are only of use where someone has a heart attack and their heart goes into cardiac arrest and when the heart goes into ventricular fibrillation. This is the most common form of heart attack but it is not something that we have a great many of in sport and recreation environments. Put it another way, a defibrillator is unlikely to be of assistance in the event of most drowning incidents, for in the event of a drowning and a casualty's heart stopping then the only way that this can be restored is through cardiac compressions, a defibrillator will not restart the heart of a casualty that has asphyxiated through drowning.

It then quite logically follows that defibrillators should only really be considered in situations where cardiac arrests show through risk assessment to be of a potentially high order. So if it is a swimming pool serving an elderly catchment area – the case may be justified. Similarly if you have a gym or swimming programme for GP referrals that includes cardiac cases – a defibrillator may be a wise purchase. If your pool is located in the centre of a busy shopping mall, with hundreds of thousands of people outside your front door – then once again the case may be justified, but check with your insurers first to clarify that your staff would be covered for an off-site emergency. In all other cases ISRM and RLSS advise thinking long and hard about purchasing an AED.