ANZCOR Guideline 12.3 – Flowchart for the Sequential Management of Life-Threatening Dysrhythmias in Infants and Children

Summary

Who does this guideline apply to?

This guideline applies to infants and children.

Who is the audience for this guideline?

This guideline is for health professionals and those who provide healthcare in environments where equipment and drugs are available.

Recommendations

The Australian and New Zealand Resuscitation Committee on Resuscitation (ANZCOR) make the following recommendations:

1. The attached flow chart be used to guide the sequence of actions during infant and child cardiac arrest management.

2. Manual defibrillators are preferred at all ages for infant and child cardiac arrest.

3. In the absence of a manual defibrillator, an automated external defibrillator may be used in infants and children (preferably a model with the capability to deliver a reduced energy shock).
1 Introduction

In this flowchart, sequential actions are indicated by arrows, assuming that the preceding recommended action has been unsuccessful.

The recognition of a new arrhythmia requires transfer to the appropriate side of the flow chart at the beginning of that sequence.

The evidence for the efficacy of most drug therapy in infant/child cardiac arrest is weak or suggestive of dubious benefit. Drug therapy is secondary to good quality CPR and other interventions.

2 Drug Doses

The doses of drugs [Class A; Expert Consensus Opinion] and volume of fluid therapy are based on body weight, which in non-obese victims may be estimated according to age or height (length). In obese victims, initial doses, except selected drugs eg succinylcholine, should be based on ideal weight estimated from height. In obese victims, doses based on weight may cause drug toxicity. In all victims, subsequent doses should be based on clinical effects and toxicity.

2.1 Approximate weights according to age are:

- Newborn: 3.5kg
- 1 year: 10kg
- 9 years and less: (age x 2) plus 8kg, [2 (age +4)]
- 10 years and over: age x 3.3kg

Alternatively, doses of drugs, energy of DC shock and volume of fluid therapy may be prescribed on the basis of height. Drug doses according to the average of 50th percentiles of weight and height according to age for boys and girls may be read from the resuscitation table (Refer Guideline 12.4).

3 Automated External Defibrillation

Manual defibrillators are preferred in infants and children. If no manual defibrillator is available it is appropriate to use a standard Automated External Defibrillator (AED) for children over 8 yrs. For infants and children under 8 years, the order of preference is:

1. Manual defibrillator
2. AED with paediatric attenuation
3. Standard AED.
4 Flow Chart

Advanced Life Support for Infants and Children

During CPR
- Airway adjuncts (LMA / ETT)
- Oxygen
- Waveform capnography
- IV / IO access
- Plan actions before interrupting compressions (e.g. change manual defibrillator to 4 J/kg)

Drugs
- Shockable
  - “Adrenaline 10 mg/kg after 2nd shock
  - “Amiodarone 1 mg/kg after 3 shocks
- Non Shockable
  - “Adrenaline 10 mg/kg immediately

Consider and Correct
- Hypoxia
- Hypovolaemia
- Hyper / hypokalaemia / metabolic disorders
- Hypothermia / hyperthermia
- Tension pneumothorax
- Tamponade
- Toxins
- Thrombosis (pulmonary / coronary)

Post Resuscitation Care
- Re-evaluate ABCDE
- 12 lead ECG
- Treat precipitating causes
- Re-evaluate oxygenation and ventilation
- Targeted Temperature Management

References


