



GUIDELINE 12.3

FLOWCHART FOR THE SEQUENTIAL MANAGEMENT OF LIFE-THREATENING DYSRHYTHMIAS IN INFANTS AND CHILDREN

NOTE: 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 a new sequence. The evidence for the efficacy of some drug therapy which is included is weak or suggestive of dubious benefit. Consequently such actions may be undertaken according to the consideration of the rescuers.

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)¹. In obese victims, initial doses, except selected drugs eg succinylcholine, should be based on ideal weight estimated from height¹. In obese victims, doses based on weight may cause drug toxicity. In all victims, subsequent doses should be based on clinical effects and toxicity.

Approximate weights according to age are:

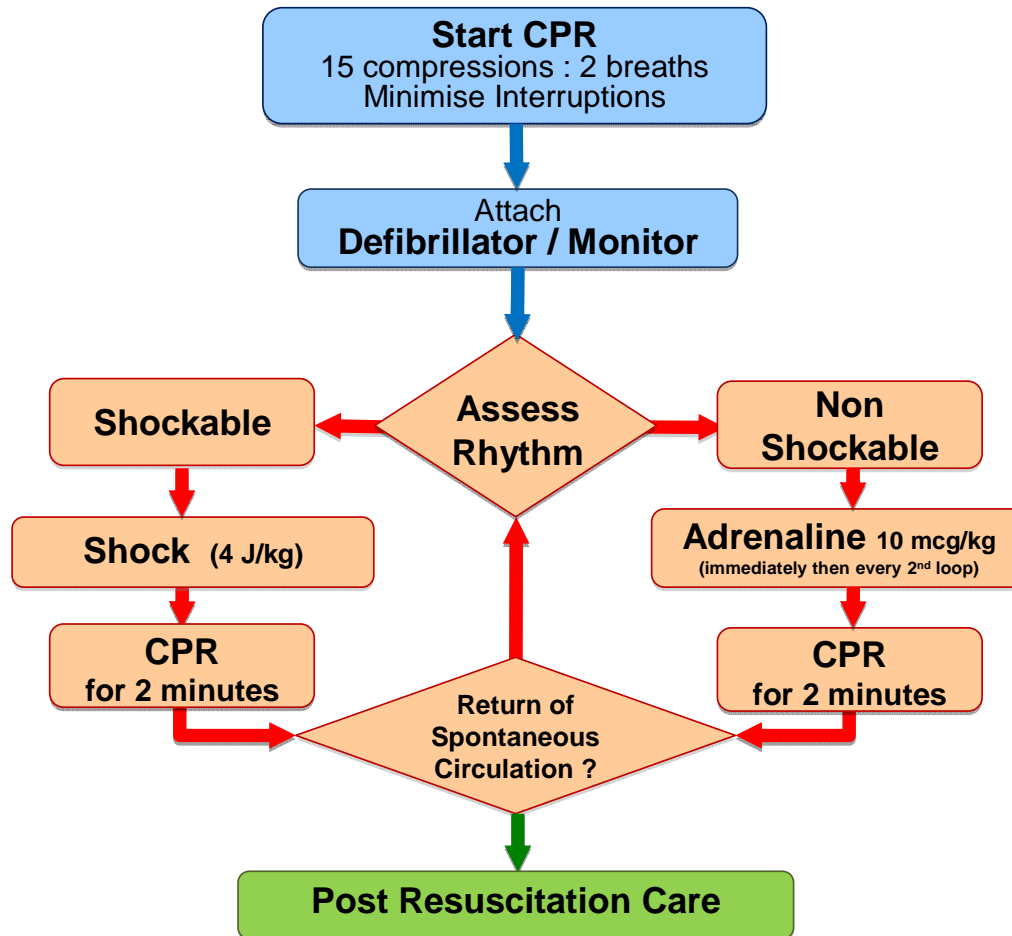
Newborn	3.5kg
1 year	10kg
9 years and less	(age x 2) plus 8kg, [2 (age +4)]
10 years and over	age x 3.3kg

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 girls² may be read from the resuscitation table (Refer Guideline 12.4).

AUTOMATIC EXTERNAL DEFIBRILLATION

If a manual defibrillator is not available, infants (\leq 1 year-old) and children 1-8 years of age may be treated with an adult automatic external defibrillator (AED) if it has a dose attenuated to 50 Joules³ [Class A; LOE IV]. If neither a manual defibrillator nor an adult AED with an attenuated energy level is available, an AED with an adult preset dose may be used (Class B, Expert Consensus Opinion). Children over 8 years may be treated with adult AED preset energy levels.

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. charge manual defibrillator to 4 J/kg)
Drugs
Shockable
* Adrenaline 10 mcg/kg after 2nd shock
(then every 2nd loop)
* Amiodarone 5mg/kg after 3rd shock
Non Shockable
* Adrenaline 10 mcg/kg immediately
(then every 2nd loop)

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
Temperature control (cool)

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REFERENCES

1. de Caen AR, Kleinman ME, Chameides L, Atkins DL, Berg RA, Berg MD, Bhanji F, Biarent D, Bingham R, Coovadia AH, Hazinski MF, Hickey RW, Nadkarni VM, Reis AG, Rodriguez-Nunez A, Tibballs J, Zaritsky AL, Zideman D, On behalf of the Paediatric Basic and Advanced Life Support Chapter Collaborators. Part 10: Paediatric basic and advanced life support: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. *Resuscitation* 2010;81:e213–e259.
2. Lubitz SL, Seidel JS, Chameides L. et al. A rapid method for estimating weight and resuscitation drug dosages from length in the paediatric age group. *Ann Emerg Med* 1988; 17:576-581
3. Atkins DL, Jorgenson D. Attenuated pediatric electrode pads for automated external defibrillator use in children. *Resuscitation* 2005; 66: 31-37.