INFANT / CHILD RESUSCITATION

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Specific information needed

1. History -- what happened, when was child found, recent illness.
2. Past history -- diseases, medications.
3. Surroundings -- evidence of abuse, neglect, or poisoning.

Specific objective findings

1. Absence of consciousness.
2. Terminal or no respirations.
3. Absence of central pulse (carotid or femoral).
4. Color, temperature.
5. Signs of trauma.

Treatment

1. Open airway and attempt ventilation.
2. If airway obstructed:
    a. Attempt to visualize airway with laryngoscope and remove any obvious foreign body.
    b. Reposition airway.
    c. Attempt to ventilate.
    d. If unsuccessful, administer up to 5 sub-diaphragmatic abdominal thrusts (child) or up to 5 back blows and 5 chest thrusts (infant).
    e. Remove apparent foreign body, or
    f. Repeat steps 1-5 if needed.
    g. Consider needle cricothyrotomy if obstruction unrelieved.
3. Check pulse once ventilations established. Begin chest compressions if no pulse.
4. Check rhythm with monitor or quick-look paddles.

VENTRICULAR FIBRILLATION

1. Defibrillate with current PALS guidelines.
2. Secure airway as appropriate for your patient.
3. Establish either IV or IO access (see IV protocol).
4. If no response, administer:
    a. Epinephrine IV, IO or ET (see epinephrine protocol).
    b. Amiodarone IV, IO or ET (see amiodarone protocol).
    c. Defibrillate at 2-4 joules/kg
    d. Repeat the Epi and Amiodarone as listed above (q 3-5 min)
    e. Shock at 4 joules/kg
    f. Assess for hypovolemia. If possible, start an IV or IO, using a volume expander, and administer 20 ml/kg and reassess.

BRADYCARDIA OR SLOW PEA

1. Oxygenate and hyperventilate. Intubate.

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2. Compress chest at a rate of 100 if heart rate is < 80/minute in infant or < 60/minute in child.
3. Treat for hypovolemia. If possible, start an IV or IO, using a volume expander, and administer 20 ml/kg and reassess.
4. Consider:
    a. Epinephrine IV, IO or ET (see epinephrine protocol).
    b. Atropine IV, IO or ET (see atropine protocol).
    c. Sodium bicarbonate IV or IO (see sodium bicarbonate protocol).
    d. Check for hypoglycemia.

ASYSTOLE

1. Oxygenate and hyperventilate. Intubate.
2. Treat for hypovolemia. If possible, start an IV or IO, using a volume expander and administer 20 ml/kg and reassess.
3. Consider:
    a. Epinephrine IV, IO or ET (see epinephrine protocol).
    b. Sodium bicarbonate IV or IO (see sodium bicarbonate protocol).
4. Check for hypoglycemia.
5. Transport rapidly for further resuscitation with CPR in progress.

Specific precautions

1. Pediatric arrests are most likely to be primary respiratory events. The rescuer's primary attention, therefore, must be directed to ensure both airway and good ventilations before any concerns for the cardiac rhythm. *Any* cardiac rhythm can spontaneously convert to NSR in a well-ventilated child.
2. Infants and children have a much greater capacity than adults to recover from cardio-respiratory arrest. CPR should be started if there is any possibility of recovery. If the chances appear poor, basic CPR with rapid transport will still allow the relatives to receive the emotional and social support of the hospital environment. Conversely, children who are cold, rigid and mottled should be left at the scene after notification and arrival of responsible law enforcement personnel.
3. SIDS (Sudden Infant Death Syndrome) will be one of the most frequent causes of cardio-respiratory arrest in infants between the ages of 1 month to 1 year. The parents or caretakers will have a great deal of guilt feelings. If these feelings are recognized and addressed it can help prevent some of the long-term effects of this devastating occurrence. Unfortunately, SIDS can be very hard to distinguish from child abuse and vice versa. Therefore it is most important not to be judgmental or suggest a diagnosis when there is not enough information to be accurate.
4. Cardio-respiratory arrest in a trauma situation (as with an adult) is best treated with rapid transport with CPR enroute. IVs may be established and fluids administered during transport.
5. The most successful infant resuscitations occur BEFORE a full cardiopulmonary arrest. Assess infants carefully and assist with airway, breathing, and circulatory problems BEFORE the arrest occurs to improve the overall care to the pediatric patient.
6. The current recommendations from the American Heart Association for obstructed airway are for abdominal thrusts in children over the age of one year only. Infants

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less than one year should be treated with both back blows and chest thrusts. The Pediatric Advanced Life Support (PALS) course is recommended for learning technique. However, paramedics or advanced EMTs should not feel restricted, but should use the laryngoscope early in an attempt to visualize the foreign body.

7. Note the following differences in pediatric drug doses:
8. Sodium bicarbonate is administered as half-strength solution (4.2%) for infants less than 10 kg. Use premixed pediatric ampules or dilute adult strength 1:1 with saline. Dose is 1 mEq/kg or 2 ml/kg of the 4.2% solution.
9. Epinephrine is given in the 1:10,000 strength IV or the 1:1,000 strength for ET administration.
10. Dextrose 25% (dilute 1:1 with saline or sterile water), 2-4 ml/kg of 25% solution.
11. For IVs -- NS is preferred.
12. The Broselow Pediatric Resuscitation Tape is a relatively simple and effective way to have multiple bits of data available to assist with infant and pediatric resuscitation. The tape is designed to place beside the youngster. Drugs and equipment are pre-measured and calculated such that by reading off the tape at the appropriate length of the patient, the approximate weight is given with equipment size listing and critical drug dosages. Its use is recommended.