Infant Resuscitaire: Form and Function

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Background:
The resuscitaire is a key apparatus used in the resuscitation of infants and neonates. It provides increased ambient warmth, lighting, monitoring, airway support and suction. Having a fully functional, correctly stocked and set up resuscitaire is vital to improving the outcome of infant and neonatal care in our emergency department.

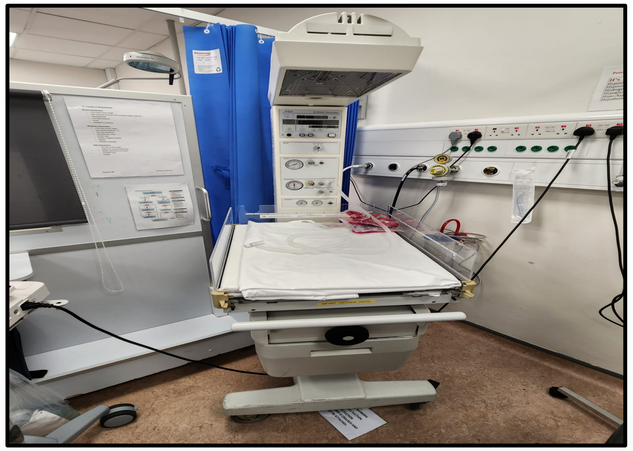
Objective:
To align the stock and functionality of the Emergency Department resuscitaire with international best practice.

Methods:
It was noted that the resuscitaire was not set up or stocked as per international best practice. Steps were put in place to correct the functional elements. The care model and stocking patterns were taken from Cork University Maternity Hospital and the Neonatal Resuscitation Program. Review of the current Stocklist with the assistance of the on site clinical nurse facilitator. Education and training on the setup and use of the resuscitaire through demonstration and simulation involving nursing staff and clinicians from the emergency and paediatric departments.

Results:
We have organised a programme of education through the emergency department to allow training in the use of the resuscitaire. This will be accomplished through practical demonstration sessions of the indications, set up and use of the apparatus. Further education is now ongoing through the use of joint paediatric and EM simulations that occur weekly.

Conclusion:
Care of the neonate/infant is often time-critical as they often present with:
1. "Cold shock", requiring ambient warmth and fluid resuscitation.
2. Respiratory arrest, the most common form of paediatric arrest.

Interdisciplinary collaboration through education, training and using the most up-to-date protocols allows these time-critical and thankfully rare events be managed in the best and most efficient way, increasing the potential for a successful outcome.



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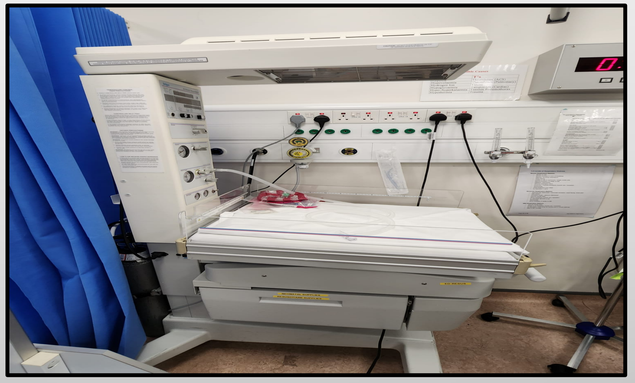

WARM
- Preheated warmer
- Warm towels or blankets
- Temperature sensor and sensor cover for prolonged resuscitation
- Hat
- Plastic bag or plastic wrap (< 32 weeks' gestation)
- Thermal mattress (< 32 weeks' gestation)

CLEAR AIRWAY
- Bulb syringe
- 1OF or 12F suction catheter attached to wall suction, set at 80 to 100 mm Hg
- Tracheal aspirator

AUSCULTATE
- Stethoscope

VENTILATE
- Flowmeter set to 1 O L/min
- Oxygen blender set to 21 % (21 %-30% if < 35 weeks' gestation)
- Positive-pressure ventilation (PPV) device
- Term- and preterm-sized masks
- 8F orogastric tube and 20-ml syringe
- Laryngeal mask (size 1) and 5-ml syringe (if needed for inflation)
- 5F or 6F orogastric tube if insertion port is present on laryngeal mask
- Cardiac monitor and leads

OXYGENATE
- Equipment to give free-flow oxygen
- Pulse oximeter with sensor and cover
- Target Oxygen Saturation Table

INTUBATE
- Laryngoscope with size O and size 1 straight blades (size 00, optional)
- Stylet (optional)
- Endotracheal tubes (sizes 2.5, 3.0, 3.5)
- Carbon dioxide (C0 2) detector
- Measuring tape and/ or endotracheal tube insertion depth table
- Waterproof tape or tube-securing device
- Scissors

MEDICATE
- Adrenaline (0.1 mg/ml= 1 mg/1 O ml)
- Normal saline (100-ml or 250-ml bag, or prefilled syringes)
- Supplies for placing emergency umbilical venous catheter and administering medications
- Table of pre-calculated emergency medication dosages for babies weighing 0.5 to 4 kg

References:
1. Textbook of Neonatal Resuscitation. Weiner GM, Zaichkin J, editors: American Academy of Pediatrics; 01 Jun 2021.