Neonatal Resuscitation

The SAPA (South African Paediatric Association) Algorithm

**A**  
**IS BABY...**  
1. Breathing adequately?  
2. Heart rate above 100?  
3. Centrally pink?

**B**  
**AIRWAY**  
Remove MECONIUM or BLOOD if present, before stimulating.

Breathing, blue, HR > 100  
ADMINISTER OXYGEN

**Assess**  
BREATHE, COLOR and HEART RATE

**Anticipate**

**Communicate**

**Aspirate**

**Stimulate**

**C**  
**CHEST COMPRESSIONS**  
10 compressions / 1 minute

Assess  
BREATHE, COLOR and HEART RATE

**Inflate**

**Circulate**

**D**  
**DRUGS**

Correct all correctable problems

**Medicate**

**Investigate**

**E**  
**EXIT**  
- Asystole > 15 minutes  
- TSR > 20 minutes

**Perambulate**

**Educate**

**Drug & Dose**

<table>
<thead>
<tr>
<th>Drug &amp; Dose</th>
<th>Points to note</th>
<th>Give</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naloxone (0.1mg/kg)</td>
<td>- Use &quot;adult&quot; naloxone ampoules - 0.1mg = 0.25ml</td>
<td>1kg = 0.25ml 2kg = 0.50ml 3kg = 0.75ml</td>
<td>IV/IM SC/ETT</td>
</tr>
<tr>
<td>Ringers Lactate or Normal Saline (10ml/kg)</td>
<td>- Normal saline = 0.9% saline - For volume expansion</td>
<td>1kg = 10ml 2kg = 20ml 3kg = 30ml</td>
<td>IV</td>
</tr>
<tr>
<td>Adrenaline (0.3ml/kg = 100000)</td>
<td>- Dilute 1:1000 adrenaline with normal saline for a 1:10 000 solution</td>
<td>1kg = 0.3ml 2kg = 0.6ml 3kg = 0.9ml</td>
<td>IV/IM SC/ETT</td>
</tr>
</tbody>
</table>
| Sodium Bicarbonate (2ml/kg = 2.5%) | - Dilute 8.5% NaBic with equal volume of water or use 4.25%  
- Do not give via ETT | 1kg = 2ml 2kg = 4ml 3kg = 6ml | Slow IV push |
| Glucose (2ml/kg 10%) | - 10% dextrose (neonatologically is 10%)  
- Use to correct hypoglycaemia | 1kg = 2ml 2kg = 4ml 3kg = 6ml | IV or oral |

**ETT size**

Small baby: 2.5  
Normal baby: 3.0  
Big baby: 3.5  
(add 1 cm for nasal intubation)

**ETT length (oral)**

1kg: 7cm  
2kg: 8 cm  
3kg: 9cm

**Department of Paediatrics: Pietermaritzburg Metropolitan Hospitals**

**Do it right now...**

**Anticipate**

**Communicate**

**Aspirate**

**Stimulate**

**Inflate**

**Circulate**

**Medicate**

**Investigate**

**Perambulate**

**Educate**

Find the risk factors that predict neonatal problems:
- Maternal  
- Foetal  
- Intropar tum

When called to resuscitate a baby you must know about:
- Gestation  
- Meconium stained liquor  
- Maternal drugs, esp opiates  
- Foetal distress  
- Indication for assisted delivery (including caesarean)

If there is meconium present, you must get rid of it using a proper SUCTION catheter of adequate SIZE (FG10)
- Suction the mouth & nose before delivering the shoulders  
- On resuscitation surface, suction under direct vision

The best way to stimulate babies is to dry them with a pre-warmed towel

**There is no point compressing the heart, if the preceding resuscitation steps have not been followed**

**Naloxone**, if indicated, should be given early

**Adrenaline**, if indicated, should be given stat

**Bicarbonate**, if indicated, should be given only if adequate ventilation has been achieved

Always ask the birth attendant (doctor or midwife) for a loop of cord, when foetal distress has been present, for acid-base investigation (if available), within ½ hour of birth

ALL hospitals should have acid-base analysis capacity

Decide timeously where baby will go after resuscitation, so that plans can be made to accommodate her/him in the nursery if necessary

If baby needs to go to the nursery, for ongoing care, use a warmed transport incubator with an adequate oxygen supply

Explain to baby’s parents what has happened (good and bad)

Document your resuscitations, and reflect on whether or not everything was “done right now”