Data Quiz

Presentation of Guidelines

- % of babies need active resuscitation?
- % of these can be predicted?

- % need extensive resuscitation?
- No babies born in NSW each year?
Data

- % of babies need active resuscitation? 10%
- % of these can be predicted? 50%
- % need extensive resuscitation? 1%
- Number of babies born in NSW each year? 80,000
- Worldwide number of babies saved/year

New Guidelines- 2005

- In 2005 ILCOR guidelines changed?
- NSW health recommendations are based on ILCOR

Changes

- Air vs Oxygen
- When to suction for meconium
- Positive pressure devices
- ETT positioning devices
- Drugs, doses and routes
- Temperature control
- Withdrawing/Withholding Care
Air vs. Oxygen

- **2000**
  - If cyanosed, bradycardic or distressed give 100% O₂
- **2005**
  - O₂ if cyanosed and breathing
  - OK to start with Air but must have supplementary O₂ if no improvement within 90 seconds

**Why the change**

- 100% O₂ adverse effects
  - Increases their work of breathing by about 45%
  - Increased oxygen consumption by 25% and carbon dioxide production by 17%
  - Generation of excess free radicals
  - Cerebral blood flow is decreased with hyperoxia
- Outcome of Air better than O₂

**How Can We Use Air Effectively**

- Use a blender and saturation monitor
- Start somewhere between Air and 100%
- Keep Saturations 90-95%
- If HR<100 at 90 seconds- Use 100%
- If no blender, use 100%

**Clearing of Meconium**

- **2000**
  - Intrapartum and postpartum suctioning
- **2005**
  - No intrapartum suctioning, on perineum
  - ET intubation should be performed in non vigorous after birth
Devices for assisting ventilation

- 2000
  - No mention of T pieces
- 2005
  - LMA (Insufficient evidence still)
  - T piece device (but also need to know B&M)
  - Self inflating bag
  - A flow inflating bag

ETT Positioning and Adequate Ventilation

- 2000
  - CO₂ detectors useful for secondary confirmation only
- 2005
  - HR increase is primary sign of improved ventilation during resuscitation. CO₂ detection is recommended primary technique to confirm correct ETT placement when prompt increase in HR does not occur

Drug Therapy Updates

- 2000
  - Same IV and ETT doses of Adrenaline
  - Naloxone was recommended, IV/ETT/IM/SC
- 2005
  - IV Adrenaline 0.1-0.3ml/kg. IV recommended none.
  - No higher IV doses recommended
  - 10 x ETT can be considered
  - Naloxone not recommended primarily
  - Naloxone no longer via ETT
Temperature control

- **2000**
  - Hypothermia: recognised as being exciting and promising only
  - Polyethylene bags not recommended for thermoregulation
- **2005**
  - Insufficient data to recommend systemic or selective cooling in asphyxia
  - Avoid hyperthermia recommended
  - Polyethylene bags to maintain temperature: VLBW

Withholding or Withdrawing Therapy

- **2000**
  - Local guidelines could stipulate non-initiation or discontinuation of resuscitation
- **2005**
  - Possible to identify conditions of poor outcome and high mortality
    - Gestation, weight or congenital anomaly predicts death
    - After 10 minutes of effective resuscitation if born without signs of life

And so who needs to know the guidelines and how are we doing training them?

Recommendations 2002/30

- Anyone involved in the care of newborn infants
  - “Provisions should be in place to ensure that staff with skills in advanced life support are readily available to render resuscitation assistance at all births regardless of gestation”
  - “A person trained in ALS should be available for normal low risk and in attendance for all deliveries considered at high risk for neonatal resuscitation.”

Evaluating the Newborn

Immediately after birth, the following questions must be asked:

- Clear of meconium?
- Breathing or crying?
- Good muscle tone?
- Color pink?
- Term gestation?

Yes

Routine care
- Provide warmth
- Clear airway
- Dry

If Apnea or HR <100 bpm:

- Assist newborn by providing positive-pressure ventilation with a bag and mask for 30 seconds.

- Then, evaluate again
Circulation

If HR < 60 bpm despite adequate ventilation:
- Support circulation by starting chest compressions while continuing ventilation.
- Then, evaluate again. If heart rate < 60, proceed to D.

Drug

If HR < 60 bpm despite adequate ventilations and chest compressions:
- Administer epinephrine as ventilation and chest compressions continue