Apnoea in the neonatal period is a potentially life-threatening or brain-threatening condition. Apnoea of immaturity MUST be prevented. In others, the underlying cause must be treated.

**Definition**

Apnoea is the cessation of breathing for long enough (usually > 20 seconds) to cause bradycardia together with cyanosis and/or pallor.

Apnoea should be distinguished from periodic breathing, which usually occurs in babies less than 34 weeks gestation. Babies with periodic breathing stop breathing for a shorter duration, do not develop cyanosis or bradycardia, and spontaneously resume breathing without stimulation.

**Who is at risk?**

The commonest cause is apnoea of immaturity due to an immature respiratory centre, usually in preterm infants < 34 weeks gestation. Apnoea of immaturity is uncommon in the first 4 days, or in a baby who has been apnoea-free.

Those at risk who catch us out…

1) **Convulsions**: if you treat the convulsions the apnoea often goes away (see Convulsions guideline)
2) **Sepsis neonatorum**: (See Sepsis neonatorum guideline)
3) Anatomical or exogenous (including mucous) obstruction of the respiratory tract (nose to alveolae): remove or bypass the obstruction
4) Hypothermia and hypoglycaemia (see specific guidelines)
5) Acidosis

**Investigations**

- Check blood sugar and temperature immediately
- Other investigations, guided by clinical examination, include CXR, FBC and differential, U&E, calcium, glucose, septic screen (blood culture, LP, urine MCS)

**Management**

- It’s not apnoea of immaturity, assess and manage the underlying cause

**OTHERWISE...**

Prophylactic Aminophylline/Theophylline/Caffeine must to be given to all preterm babies < 34 weeks. (Caffeine is better) Give it as soon after birth as possible.

Toxicity warning signs: tachycardia, feed intolerance, seizures

- Prevent apnoea of immaturity through pharmacological stimulation of the respiratory centre. Prescribe at birth:
  - AMINOPHYLLINE IV slowly or THEOPHYLLINE PO: loading dose 5mg/kg. Maintainance 1-2mg/kg/dose, 12 H. Continue to +/- 34 weeks.
  - OR...
  - CAFFEINE PO loading dose: 20mg/kg. Maintenance 5mg/kg 24H PO. Continue to +/- 34 weeks

- Monitor (apnoea monitor, pulse oximeter, cardiac monitor) and give O₂ if required to keep sats between 85 – 95%

- It is dangerous to give oxygen to infants with apnoea of immaturity if they do not need it

- Manual stimulation when needed

Infants with repeated apnoea, in spite of theophylline, should be referred to a specialist hospital for investigation and nasal CPAP/ventilatory support if required. They may need mask and bag ventilation before being transported