Spontaneous breathing and respiratory support of preterm infants at birth
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1. Preterm infants brake their expiration at birth, most often to a hold, to recruit and maintain their lung volume. Their breathing pattern is different from that seen when manual inflations are given during neonatal resuscitation. (this thesis)

2. A sustained inflation directly followed by continuous positive airway pressure, delivered through a nasopharyngeal tube, is a more efficient ventilation strategy in very preterm infants than repeated manual inflations with a self-inflating bag and mask followed by continuous positive airway pressure on admission to the NICU. (this thesis)

3. During ventilation of preterm infants at birth applying positive end-expiratory pressure is essential for creating and maintaining functional residual capacity and should be recommended; a manual device that delivers adequate and consistent positive end-expiratory pressure should be used. (this thesis)

4. In preterm rabbits, combining an initial sustained inflation and positive end-expiratory pressure during ventilation at birth improved formation of functional residual capacity and uniformity of lung aeration, but positive end-expiratory pressure had the greatest influence on functional residual capacity. (this thesis)
5. As with many interventions intended to prevent ill health, the effectiveness of parachutes has not been subjected to rigorous evaluation by using randomized controlled trials. Everyone might benefit if the most radical protagonists of evidence based medicine organised and participated in a double blind, randomised, placebo controlled, crossover trial of the parachute. (Gordon Smith and Jill Pell, BMJ 2003;327(7429):1459-61)

6. Resuscitation means “to bring back from the death” and most very preterm infants at birth are not dead. Until we accept that these infants will not quickly die without intubation, it remains difficult to move forward in finding the best approach at birth. (Colm O’Donnell, Neonatology 2008;93:295-301)

7. Despite more than 50 years of experience with sodium bicarbonate, the data do not support a net beneficial effect in infants with metabolic acidosis. Clinicians should resist the common impulse to administer sodium bicarbonate for metabolic acidosis and recognize the risks of immediate worsening of the intracellular milieu. (Judy Aschner and Ronald Poland, Pediatrics 2008;122:831-35)

8. When you are called to a sick preterm infant at birth, be sure you know what the matter is - if you do not know, nature can do a great deal better than you can guess. (Nicholas de Belleville, modified)

9. If you have always done it that way, it is probably wrong. (Charles Kettering)
10. Happiness is when what you think, what you say, and what you do are in harmony. (Mahatma Gandhi)

11. Whatever changes, keep smiling. (Bassie, modified)

12. Don’t hold your breath while trying to convince neonatologists about the benefits of applying a sustained inflation at birth!

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Arjan te Pas