

have a higher PMR (57/1000 vs 11/1000, 5.2x) and NMR (39/1000 vs 7/1000, 5.6x). Five million annual neonatal deaths (98% of the world's total) occur in developing countries. Regional annual livebirths figures are: Asia-Oceania 76 million, Africa 31 million, Central and South America 12 million, Europe 8 million, and North America 4 million. Regional annual neonatal death figures are: Asia-Oceania 3.3 million, Africa 1.3 million, Central and South America 0.3 million, Europe 0.07 million, North America 0.03 million. The Asia-Oceania region has a PMR of 53/1000 and a NMR of 41/1000. It has half of the world's livebirths and two-thirds of the world's neonatal deaths. The PMR and NMR have often been used as an indicator of the standard of a country's social, educational and healthcare systems. Strategies, which address inequalities both within a country and between countries, are necessary if there is going to be further improvement in global perinatal health.

## L108

### SPECIAL RESUSCITATION CIRCUMSTANCES

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#### Meconium Aspiration

If the amniotic fluid contains meconium and the infant has absent or depressed respirations and decreased muscle tone direct laryngoscopy and intubation / suction of the trachea should be done. It has been shown that intubation and suctioning of the apparently vigorous meconium stained infant does not result in a decreased incidence of meconium aspiration syndrome or other respiratory disorders. Complication of intubation are infrequent and short lived.

#### Pneumothorax

A pneumothorax is a potential problem whenever positive pressure ventilation is used. A pneumothorax should be suspected in any infant who is improving during a resuscitative effort and then suddenly decompensates. Unilaterally decreased breath sounds, distant heart sounds, shift in the point of maximal cardiac impulse, and persistent cyanosis are the signs of pneumothorax. When immediate intervention in the delivery room is needed, it may necessary to insert a needle into the thorax before radiographic confirmation.

#### Diaphragmatic hernia

Immediate tracheal intubation should be performed to minimize air entry into the gastrointestinal tract. A nasogastric tube should be placed to allow intermittent suction to decompress the small bowel and minimize lung compression.

#### Erythroblastosis/Hydrops

If the infant is extremely anemic, a coordinated team should be prepared to perform a partial exchange transfusion. Initial lung expansion may be a problem in pleural effusion and ascites. After an airway has been secured, thoracentesis and/or paracentesis may improve ventilation and oxygenation.

## L109

### RESUSCITATION OF THE NEWBORN WITH ROOM AIR OR OXYGEN?

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Three new sets of guidelines for resuscitation of the newly born infant have been published the last years. One of these recommends the use of ambient air for basic resuscitation of the newly born and two that 100% oxygen is used.

In 1998 WHO stated that "Additional oxygen is not necessary for basic resuscitation". But the WHO guidelines also added: "However, when the newborn's colour does not improve despite effective ventilation, oxygen should be given if available". Thus the WHO statement acknowledges recent animal and clinical data and also recognizes that oxygen is both expensive and not readily available throughout many places in the world.

The International Liaison Committee on Resuscitation (ILCOR) and American Heart

Association/American Academy of Pediatrics (AHA/AAP) in their new guidelines both advocate the use of 100% O<sub>2</sub> for newborn resuscitation. The International Guidelines 2000 state: "100% oxygen has been used traditionally for rapid reversal of hypoxia. Although biochemical and preliminary clinical evidence suggest that lower inspired oxygen concentrations may be useful in some settings, data is insufficient to justify a change from the recommendation that 100% oxygen be used if assisted ventilation is required. If supplemental oxygen is unavailable and positive ventilation is required, use room air". The oxygen source is recommended to be at least 5 L/ min, and the oxygen should be held close to the face to maximize the inhaled concentration. And it is underlined that self-inflating bags often will not passively deliver sufficient oxygen flow. Free flow oxygen could be delivered through a facemask and a flow-inflating bag, an oxygen mask, or a hand cupped around oxygen tubing. The goal of supplemental oxygen administration should be normoxia. The major change of the points dealing with oxygen since the 1992 recommendations is that the new guidelines explicitly state that room air should be used if oxygen is not available. This is an important statement since in some places resuscitation seems occasionally not to be initiated at all if supplemental oxygen is not present. Furthermore, the sentences in the 1992 AHA recommendations indicating that brief exposure to hyperoxia during resuscitation is not harmful, have been removed.

## L110

### NEONATAL ETHICAL PROBLEMS IN DEVELOPED AND DEVELOPING COUNTRIES

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Among the many neonatal ethical problems, the one which neonatologists are faced with on a regular basis involves the issue of selective non-treatment, that is, clinical decisions made after the birth of a live-born infant to either withhold or withdraw treatment in certain clinical situations. If doctors believe that the infant has little prospect for intact survival, their management would be suboptimal and they create a self-fulfilling prophecy. A policy establishing criteria for initiating life-sustaining treatment must be developed with proper consideration of the cultural, social and economic factors operating in the developed or developing country. There are infants whose subsequent clinical course after initiation of neonatal intensive care will indicate that further curative efforts are futile or lack compensating benefit. A policy establishing criteria for withdrawing life-sustaining treatment must also be developed, to allow the appropriate use of palliative care in these instances. The clinical situations in which selective non-treatment is taking place in the neonatal intensive care unit are: (1) when death is considered to be inevitable whatever treatment is provided, (2) even when death is not inevitable, there is a significantly high risk of severe physical and mental disability should the infant survive, and (3) when survival with moderate disability is possible, but the infant is likely to experience ongoing pain and suffering, repeated hospitalisation and invasive treatment, and early death in childhood. The principles underlining clinical practice should be the same for developed and developing countries, but there must be less medical paternalism and more informed parental involvement in developing countries. Compared to developed countries, communications between the medical and nursing staff and the parents are less adequate in developing countries.

## L111

### NEONATAL INTENSIVE CARE NURSING

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Even the specially formed NICUs improve the prognosis of the premature and diseased newborns, they are foreign environments that are full of stimulators for the premature and diseased newborns that have been separated their physiological environments earlier. Technological instruments and interventions performed in this environment make the adaptation efforts of the infant to his/her new life hard, and dan-