

Infant respiratory distress syndrome is a lung disorder that tends to affect premature infants. Major symptoms include difficulty in breathing and collapsed lungs, potentially requiring mechanical ventilation or positive end-expiratory pressure (PEEP). Infant respiratory distress syndrome is characterized by diminished oxygen intake in the premature newborn. A clear membrane is found lining the alveolar (air cell) ducts in the lungs and is associated with reduced amounts of lung wetting agents or emulsifier (surfactant). The surfactant is a lipoprotein based on lecithin that stabilizes alveolar membranes. When this surfactant is missing, breathing is difficult and may lead to collapse of a lung. The affected infant must be placed on some type of ventilation, either mechanical or physical, in order to continue breathing. Infant respiratory distress syndrome affects male and female premature infants in equal numbers. Among approximately 250,000 infants born prematurely each year in the United States, up to 50,000 will have IRDS which will kill approximately 5,000 of them. Due in large part to the use of surfactants beginning in 1989, infant mortality rates in the United States have dropped from 9.7 per 1,000 births in 1989 to 8.9 per 1,000 births in 1991. Infants with surfactant protein-B deficiency do not respond to surfactant replacement therapy.