"Usually the syndrome begins with muscle twitchings in the face. The twitching spreads to the rest of the body and assumes clonic and tonic phases which frequently result in cyanosis. The pupils are widely dilated and not responsive to light. When death occurs, it is asphyxial in nature with respiratory failure preceding circulatory collapse. When recovery results, transient or permanent injury to the central nervous system is not infrequent. . . .

"It is important to distinguish between true convulsions and 'ether clonus.' Lorhan and Payne describe ether clonus as a phenomenon of the induction phase of anesthesia before full surgical anesthesia is attained, consisting of clonic spasms of the arms and legs and lasting for a short time. True ether convulsions occur only during surgical anesthesia or at the end of the operation. The former is benign and is readily remedied by increasing oxygen tension, deepening the anesthesia or changing the position of the patient.

"Following is a report of six cases. . . .

"Although chloroform administration was associated with effective cessation of convulsions on three occasions, it is questionable whether expectant treatment might not have been just as effective. . . .

"In the armed forces, where ideal equipment may not be available under all circumstances, a good practice in the treatment of convulsions during ether anesthesia is the administration of chloroform by open drop while an assistant prepares an ultra short acting barbiturate for administration by vein. In this way, in well-conditioned patients, some of the unfortunate results of convulsions during anesthesia may be avoided or minimized."

A. W. F.

KREISELMAN, JOSEPH: *The Treatment of Asphyxia.* J. Connecticut M. Soc. 9: 94–99 (Feb.) 1945.

"Asphyxia is a chemical phenomenon. In the severe forms of this disorder the blood is almost depleted of oxygen, there is an increase in the partial pressure of carbon dioxide, and there is a sharp rise in blood lactic acid. While these changes in the lactic acid, pH, and carbon dioxide tension are marked, it should be remembered that they are entirely secondary and that the primary blood chemical change in asphyxia is an extreme reduction in the oxygen content of the blood. . . .

The total infant mortality in the first day of life in the United States is more than 110,000 yearly. The prime factor in infant deaths in this first day of life is asphyxia. . . .

"The problems of treating neonatal asphyxia in no small measure revolve around the many faulty practices which are widespread. Among these may be listed the following: swinging the baby, dilating the sphincter, spanking, dousing with ether, hot and cold tubs, and all other forms of external stimulation. Because of the danger of brain hemorrhage it is self-evident that to hold a baby head down is exactly the wrong thing to do.

"Alpha-lobeline, metrazol, picrotoxin and coramine as well as all other so-called stimulants have no place in the treatment of apnea at birth because their effect on respiration is nil in the presence of anoxia; and it has been shown, the severe forms of apnea neonatorum are regularly associated with anoxia.

"Mousel and Essex in working with these drugs have found that not only are they of no value in stimulating respiration and circulation when these centers are depressed, but that they actually increase the depression, often cause convulsions and they may even

cause sudden cessation of respiration and death.

"In experimental asphyxia pure oxygen is superior to carbon dioxide-oxygen mixtures as a resuscitating agent. The addition of carbon dioxide in the treatment of apnea is not only superfluous; it is actually harmful. There is no lack of carbon dioxide in such cases. When the medullary centers are damaged, carbon dioxide is a depressant.

"Manual methods of artificial respiration should not be attempted in the resuscitation of the apneic newborn for the simple reason that one cannot express air from an airless lung and damage to the viscera and ribs occurs not infrequently.

"The respirator chamber types of apparatus are of little or no value in the treatment of apnea neonatorum. Murphy and Bauer and others report that the lungs show little or no aeration following the use of such apparatus.

"The pulmotor types of resuscitators are of the automatic suck and blow principle; they are not efficient in the treatment of apnea neonatorum. The lungs of these patients have never contained air and the machines, upon meeting the resistance of the atelectatic lungs, trip back and forth without inflating the lungs sufficiently. . . .

"The essentials of successful treatment of asphyxia neonatorum are maintenance of body temperature, correct posture for maintaining an open airway, clear air passages, and the administration of oxygen intermittently under positive pressure or continuously at atmospheric pressure. . . .

"Oxygen is supplied to the lungs intermittently at a carefully controlled and predetermined pressure. This pressure may be regulated up to 16 mm. Hg. . . . The average pressure used is 12 mm. Hg. . . .

"The routine in caring for the newborn . . . is as follows:

"As soon as the cord is cut the baby is placed in the heated bassinet in a 15° Trendelenburg position. The mouth and pharynx are cleared at once with the aspirator, and if the baby does not breathe spontaneously, or if it is cyanosed or pale, oxygen is given without delay.

"A common error is waiting to see what will happen. Do not wait. Supply oxygen to the tissues immediately. . . .

"If the baby is not breathing, oxygen should be supplied with the resuscitator by placing the mask over the nose and mouth with the airway over the tongue. The head should be extended and the chin held up in order to maintain a clear airway. This is very important. . . .

"In deeply asphyxiated babies, breathing efforts will begin usually with spasmodic inspiratory efforts which do not take in air. These efforts should be carefully watched and the inflations synchronized with each effort at inspiration, at the same time continuing the 15 times per minute rate. This timing can be accomplished only through use of an apparatus the rhythm of which is controlled by hand operation. . . .

"In the absence of suitable apparatus mouth to mouth or mouth to tracheal catheter is the best method."

A. W. F.

BRIDGE, E. V.; HENRY, F. M.; WILLIAMS, O. L., AND LAWRENCE, J. H. *"Chokes": A Respiratory Manifestation of Aeroembolism in High Altitude Flying.* Ann. Int. Med. 22: 398–407 (March) 1945.

"The tactical success of certain operations in this war has required aircraft capable of flying in the stratosphere. To keep pace with the accomplishments of the aeronautical engineer, the physiologist has had to study man's tolerance for and means of pro-