sity of dog blood changes with changes in P_{CO_2}. Thus, a systematic error may be introduced when change in optical density is used to measure the oxygen content of the blood and when there is a simultaneous change in P_{CO_2}. (*Solomon, P., and others: Optical Density Changes in Dog Blood at Full Oxygen Saturation with Changes in P_{CO_2}, J. Appl. Physiol. 81: 739 (July) 1963.*)

HYPERBARIC OXYGEN Fourteen days' exposure to a total pressure of 258 mm. of mercury and P_{O_2} of 243 mm. of mercury in four men caused no atelectasis or hematologic disorders attributable to the oxygen-rich environment. Eye irritation, aural atelectasis, erythema of the posterior pharynx and substernal pain were the only symptoms encountered. (*Morgan, T. E., and others: Physiologic Effects of Exposure to Increased Oxygen Tension at 5 PSIA, Aerospace Med. 34: 720 (Aug.) 1963.*)

HYPERBARIC OXYGEN In addition to apparent advantages of increased body oxygen stores obtainable with pressurized oxygen, there are many problems which must be solved before it can be a safe and effective tool. The problem of oxygen toxicity in man breathing pressurized pure oxygen appears to be primarily the central nervous system effects (convulsions). This complication can be avoided largely by utilizing pressures under three atmospheres absolute for limited periods of time (in most cases less than an hour) although longer periods of time are tolerated well if hyperbaric oxygen is alternated with normal pressures for short intervals. Altered carbon dioxide transport and tissue acidosis probably play a part in toxicity but it would seem inactivation of certain enzymes in the tricarboxylic acid cycle, possibly through oxidation of sulfhydryl groups, is a more important factor. (*Richards, V., Pinto, D., and Coombs, P.: Considerations and Uses of Hyperbaric Oxygen Therapy in Surgery, Amer. J. Surg. 106: 114 (Aug.) 1963.*)

OXYGEN CONSUMPTION Effects of exposure to cold on the rate of oxygen consumption was studied in unanesthetized newborn guinea pigs and rabbits. Urethane anesthesia resulted in a small reduction in the metabolic response to cold. In anesthetized rabbits muscular paralysis caused by *d*-tubocurarine was accompanied by a decrease in oxygen consumption, a fall in blood pressure and a reduction in the pressor response to nicotine. Muscular paralysis caused by gallamine did not decrease oxygen consumption in a cold environment, provided there was no fall in blood pressure. In anesthetized newborn animals, a large part of the immediate increase in oxygen consumption on exposure to cold persisted in spite of muscular paralysis. The increase could have been due to secretion of large quantities of sympathetic amines. (*Dawes, G. S., and Mestyan, G.: Changes in Oxygen Consumption of Newborn Guinea pigs and Rabbits in Exposure to Cold, J. Physiol. 168: 22 (Aug.) 1963.*)

ASPHYXIA Immature animals of many species survive asphyxia or anoxia for longer time than do adults. If glycolysis is inhibited, the survival time is reduced to that of the adult. Fetal lambs of 74 to 92 days gestation were asphyxiated by tying the umbilical cord. When glucose was infused with sufficient base to check the fall in arterial *p*H, blood pressure and heart rate fell more slowly than in the untreated lambs, the rate of rise of plasma potassium was reduced by 60 per cent and the blood lactate continued to rise rapidly throughout the period of asphyxia. Infusion of glucose only or base only was ineffective. When base was infused alone, the total cardiac carbohydrate appeared to be depleted more rapidly than in the untreated lambs. When glucose was infused alone or in combination with sodium chloride, the terminal carbohydrate was no different from that in untreated lambs subjected to the same period of asphyxia. It was concluded that if glycolysis is maintained during asphyxia by checking the fall in arterial *p*H and providing glucose as a substrate, sufficient energy may be available to maintain both the circulation and the integrity of the tissues for longer than in untreated lambs. (*Dases, G. S., and others: Prolongation of Survival Time in Asphyxiated Immature Fetal Lambs, J. Physiol. 168: 43 (Aug.) 1963.*)