linger, W. F., and others: The Effect of Hydroxyethyl Starch Upon Survival of Dogs Subjected to Hemorrhagic Shock, Surg. Gynec. Obstet. 122: 33 (Jan.) 1966.)

HEMORRHAGIC SHOCK Hemorrhagic shock was produced in 24 dogs by bleeding them to a mean arterial pressure of 50 mm. of mercury and maintaining this for 2 hours. At the end of the two-hour period, the blood was returned to the dog. Twenty-one of the dogs died during the experiment or within 24 hours after its conclusion, the remaining three survived and were sacrificed after 7 days. Morphologic changes occurred in the lungs consisting of small or large areas of hemorrhagic consolidation. In the more severe cases, there was massive extravasation of red cells throughout the lung producing large confluent areas of hemorrhagic consolidation while in the less severe instances, hemorrhage was confined to some alveoli and small bronchi. In the lungs of the survivors, microscopic examination revealed the residue of hemorrhagic polymorphonuclear infiltration into the small areas of atelectasis. Changes in the lung in these dogs were as frequent as those in the heart and twice as frequent as those in the portal bed. Alterations in lung function were present but were not considered significant in determining irreversibility of the shock. This study indicates that non-fatal shock may damage the lungs and thus provide one additional source of difficulty in the post-shock period. *(Sealy, W. C., and others: Functional and Structural Changes in the Lung in Hemorrhagic Shock, Surg. Gynec. Obstet. 122: 754 (April) 1966.)*

HEMORRHAGIC SHOCK Hemorrhagic shock was produced in a series of dogs by bleeding, according to the method of Wiggers, to mean blood pressure of 30 mm. of mercury. After 60 minutes at this pressure, treatment was instituted. Of the dogs treated by reinfusion of the removed blood, 50 per cent survived. Equally good survival rates were seen if the animals were treated with: (1) the blood plus an equal amount of lactated Ringer's (*p*H 8.5), in a volume equal to four times the shed blood. Poorer survivals were seen if replacement consisted of lactated Ringer's (*p*H 6.5) in a volume equal to four times the volume of the shed blood or the shed blood plus 5 per cent glucose in water, in a volume equaled to three times the blood removed. The efficacy of a balanced salt solution as treatment for experimental hemorrhagic shock was attributed to the replenishment of the functional sodium mass of the body and not to simply volume expansion. *(Dillon, J., and others: Treatment of Hemorrhagic Shock, Surg. Gynec. Obstet. 122: 967 (May) 1966.)*

SHOCK Heparinized dogs were made acutely hypotensive by either hemorrhage or histamine injections. During the first 20 to 30 minutes of hemorrhage when 30 to 40 per cent of the total blood volume had been lost, severe hypotension developed and definite physicochemical changes occurred in the blood. A marked increase occurred in screen filtration pressure without changes in blood viscosity. There was a decrease in the electrokinetic charge of the platelets and the red cells. Slight decreases occurred in the concentration of plasma protein with a greater percentage decrease occurring in the glycoproteins, hexosamine, and sialic acid. A continuous slight rise also occurred in the concentration of potassium ions and whole blood plasma and red cells. Plasma total lipids decreased and red cell lipids increased probably due to a shift of lipid in the plasma to the cells. In histamine hypotension, the increase in screen filtration pressure was less than during hemorrhage but it occurred immediately after the blood pressure fall. Platelet charge also fell immediately but there was no change in the charge on the red cells. There was a rapid development of hemoconcentration accompanied by an increase in the viscosity of whole blood and plasma. One hour later, hemodilution occurred with decreases in hematocrit and viscosity as well as the concentrations of plasma proteins. Of the protein components, only hexosamine decreased with the fall in blood pressure while the other components decreased later. *(Hissen, W., and others: Physicochemical Changes in Circulating Canine Blood on Exsanguination or Administra-*