pears to be permanent changes in temperament and personality while another has a residual hemiparesis. . . . It has been especially illuminating to find that in four of the seven patients subjected to electro-encephalography at varying periods after their operations, there were pathologic changes recorded. It would be useful to know whether changes which may be found early after the convulsive episode would persist but our data does not supply this information. Also, it would be necessary always to take into consideration the possibility that patients may have had abnormal brain waves prior to the time of the operation. . . . The clinical evidence for damage to other organs of the body as a result of the anoxia, presumed to have caused the convulsions, is to be found in the high incidence of postoperative pulmonary complications (in seven of the ten patients who lived longer than a day after operation) and of albuminuria (in five of the ten). . . . Various blood studies made soon and late after the occurrence of convulsions in a number of the patients failed to disclose any significant changes. . . .

"When convulsions do occur it is advisable to (1) discontinue the anesthetic, (2) terminate the operation as quickly as possible; (3) administer oxygen; (4) correct any unfavorable position on the operating table; (5) keep the airway open (bronchoscopic aspiration may be required in case of atelectasis); (6) give some form of soluble barbiturate intravenously to control the convulsions, such as sodium amytal, sodium phenobarbital, or pentothal sodium; (7) replace blood or fluid loss; and (8) allay hyperthermia by sponging the body or irrigating the rectum with cold water. An oxygen tent provides the dual service of cooling and supplying adequate oxygen. There may be advantage in administering hypertonic glucose solution intravenously, particularly to combat unrecognized hypoglycemia and intravenous calcium gluconate or intramuscular parathormone to correct calcium imbalance." 61 references.

J. C. M. C.

MAHONEY, E. B., AND HOWLAND, J. W.: *Treatment of the Severely Burned Patient with Special Reference to Controlled Protein Therapy.* New York State J. Med. **43**: 1307–1311 (July 15) 1943.

"The entire premise of fluid therapy depends on the daily evaluation of the patient and the replacement of plasma, whole blood, water, or electrolytes as may be required. . . . The immediate and adequate instigation of replacement therapy (fluid and protein) is the most important feature in the primary treatment of severe burns. Replacement therapy should be carefully controlled by continuous observations of plasma specific gravity (protein) and hematocrit or hemoglobin. The toxemia of burns will be minimized if not entirely prevented by adequate fluid and protein replacement." 27 references.

J. C. M. C.

MURRAY, LT. C. K.; HALE, LT. COMDR. D. E., AND SHAAR, CAPT. C. M.: *The Preparation and the Use of Red Blood Cell Suspensions in Treatment of Anemia.* J. A. M. A. **122**: 1065–1067 (Aug. 14) 1943.

"The red blood cells which remain after the plasma has been aspirated by means of a closed aseptic technic are used for the preparation of the red blood cell suspension. After the plasma is removed, the aspirating needle is plunged to the bottom of the red blood cell layer and 200 cc. of cells is drawn over by means of a vacuum into a sterile 300 cc. dispensing bottle which contains 100 cc. of 5 per

cent dextrose in isotonic solution of sodium chloride. The buffy coat or gel which lies between the packed red blood cells and the supernatant plasma and which consists of white blood cells, platelets and fibrin is left behind in the bottle which was used for collecting the blood. The final suspension contains approximately 88 per cent of the red blood cells obtained from one donation of 500 cc. of whole blood. The cells are from 24 to 48 hours old when they are aspirated into the dispensing bottles. They are then stored in a refrigerator at 2 to 5 C. for a maximum period of seventy-two hours, after which time those not used are discarded. The suspension of red blood cells is typed and cross matched with the serum and cells of the recipient and is also examined for hemolysis, which, if present, is sufficient reason for discarding the suspension. An analysis of the suspension reveals averaged values as follows: a hemoglobin of 17 Gm. per hundred cubic centimeters, a red cell count of 6,180,000 and a white cell count of 2,000 per cubic millimeter. . . . It has been estimated that 50 per cent of the patients requiring blood transfusions in a large hospital probably need only red blood cells; and, since large quantities of these red blood cells are now being discarded in the preparation of plasma, it is logical that they be utilized as suspensions in the treatment of anemia. In time of war, when hospital beds are not plentiful and convalescence can be hastened by the administration of these red cell infusions, their use is of great value. At the Philadelphia Naval Hospital, 116 infusions of red blood cells have been administered in this series with only two reactions, an incidence of 1.72 per cent. The data obtained from a careful study of 72 of these infusions in 48 patients were tabulated. The average rise in hemoglobin for each 300 cc. suspension was approximately 1 Gm. and all but 4 of the cases showed clinical improvement. The results show that a waste product may be converted into an effective therapeutic agent in the treatment of anemia." 6 references.

J. C. M. C.

LOZNER, E. L., AND NEWHOUSER, L. R.: *Studies on the Transmissibility of Malaria by Plasma Transfusion.* Am. J. M. Sc. **206**: 141–146 (Aug.) 1943.

"It is the purpose of this communication to report the results of 35 administrations of plasma prepared from donors with active malaria, and preserved by different techniques for varying lengths of time. . . . The donors were patients with active therapeutic quartan and estivo-autumnal malaria. . . . In 20 administrations of thawed plasma which had been 'shell' frozen in a solid carbon dioxide-alcohol bath, no transmissions of malaria were observed. In 3 administrations of restored plasma which has been dried from the frozen state, no transmissions were observed. In 2 administrations of plasma preserved in the liquid state for 1 day, there was 1 definite transmission and 1 probable transmission. In 5 administrations of plasma preserved in the liquid state for 1 week there was 1 very doubtful transmission. In 5 administrations of plasma preserved in the liquid state for 2 weeks no transmissions were observed. It may be concluded that the likelihood of transmission of malaria by any plasma program, regardless of type of preservation used, is practically non-existent." 15 references.

J. C. M. C.

JENKINS, H. R.; SCHAFER, P. W., AND OWENS, F. M., JR.: *Guide to Replacement Therapy for Loss of Blood or Plasma.* Arch. Surg. **47**: 1–3 (July) 1943.