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## Transfusion

**TREATMENT OF INCOMPATIBLE BLOOD REACTION** A 15-year-old white girl weighing 50 kg suffered multiple stab wounds to the chest and neck. During a two-hour period, she received 3,000 ml of A-positive blood. At this time, urine became deep red and arterial pressure began to decrease. At this time also the blood bank notified the authors that the patient's blood type was actually O-positive. Treatment with mannitol, O-positive packed cells, and crystalloid was instituted. Within 20 minutes, blood pressure was unobtainable and urinary output had ceased. Hemolysis, coagulopathy, and renal shutdown ensued. The authors undertook to provide massive hemodilution under moderate hypothermia and cardiopulmonary bypass. The patient was heparinized, a pump oxygenator system was primed with 4 liters of electrolyte solution containing sodium bicarbonate and calcium chloride, and cannulas were placed in the venae cavae and aorta. Bypass was instituted within three hours of admission. The pa-

tient's temperature was lowered to 27°C. Hemodilution progressed, resulting in hematocrit of 3 per cent within one hour after institution of bypass. The patient was then given a transfusion of O-positive erythrocytes while metabolic acidosis was corrected with appropriate infusions of bicarbonate. Clear urine began to appear and cardiopulmonary bypass was discontinued approximately three hours after its institution. Five and a half hours elapsed from the time massive transfusion reaction was diagnosed until the completion of operation. At the completion of operation, the patient was awake and responding. Following a period of controlled and intermittent mandatory ventilation, she made an uneventful recovery. She was discharged 14 days after admission without symptoms. The authors believe the patient represents the first survivor of a transfusion reaction following 3,000 ml of ABO-incompatible blood. (Seager, OA, and others: *Massive acute hemodilution for incompatible blood reaction*. *JAMA* 229:790-792, 1974.)