
Lab Dept: Transfusion Services

Test Name: NEWBORN TYPE AND SCREEN

General Information

Lab Order Codes: BN

Synonyms: Exchange Transfusion, Neonatal Transfusion; Newborn Transfusion; Type and Crossmatch for Exchange Transfusion of Newborn; Newborn Crossmatch and Transfusion

CPT Codes: 86900 – ABO
86850 – Antibody Screen
86880 – Direct Coombs
86901 – Rh Type

Test Includes: ABO, Rh, Antiglobulin Test – Indirect, Antiglobulin test – Direct. If indicated, or indirect Coombs test with A and/or B cells.

Logistics

Test Indications: For pretransfusion testing for infants <7 days old or for the diagnosis of hemolytic disease of the newborn. Refer to Type and Screen procedure for infants 8 days to 4 months of age. Infants under 4 months of age require only one workup per hospital admission.

Lab Testing Sections: Transfusion Service

Phone Numbers: MIN Lab: 612-813-6824

STP Lab: 651-220-6558

Test Availability: Daily, 24 hours

Turnaround Time: 1 hour

Special Instructions: Enter infant's birthweight with order.

Specimen

Specimen Type: Whole blood

Container: Lavender top (EDTA) tube

Alternate: Red top tubes will be accepted, but will delay specimen processing to allow for clotting. **(SST tubes are Not acceptable.)**

Draw Volume:	1 – 2 mL blood
Collection:	All specimens submitted to the Transfusion Service must be appropriately labeled at the bedside with the time and date of collection, and the signature of the individual collecting the specimen. A completed order, either through the HIS or general requisition must accompany each specimen. It is not always necessary to collect a new sample prior to the provision of blood for patients. Consult with the Transfusion Service prior to collecting additional samples if the patient status is unknown.
Special Processing:	Lab Staff: Refrigerate specimen
Patient Preparation:	Refer to Collection of Patient Specimens for full details. The patient must be positively identified when the specimen is collected. The label on the blood specimen must correspond with the identification on the patient's Medical Record wrist or ankle band (or ED ID) and on the physician's/practitioner's orders. The specimen must be timed, dated and signed by the phlebotomist at the bedside.
Sample Rejection:	Gross hemolysis, sample placed in a serum separator tube, specimen tube not properly labeled

Interpretive

Reference Range:	N/A – see report
Limitations:	<p>Exchange Transfusion: A classic indication for exchange transfusion in full-term infants is an indirect bilirubin level >20 mg/dL. At this level, brain damage may occur. In premature babies or those with other complications, brain damage may occur at lower levels of bilirubin. An exchange transfusion may then be appropriate at levels <20 mg/dL. Severe bilirubinemia may also occur with hepatic failure, disseminated intravascular coagulopathy, and in respiratory distress syndrome. In the latter disorder, exchange transfusion aims to shift the oxygen dissociation curve to the right by replacing hemoglobin F with hemoglobin A.</p> <p>Relatively mild jaundice beginning 1-2 days after delivery with a weakly positive direct antiglobulin test in a baby of type A or B and a mother of type O usually indicates ABO hemolytic disease. Anti-A or Anti-B in the baby's serum incompatible with its own RBC's is usually detected. A more definite test is to elute antibody from baby's RBC's and test it against A₁, B, and O red cells.</p> <p>Exchange transfusion is seldom necessary in ABO hemolytic disease. Complications of exchange transfusion have been compiled.</p>
Methodology:	Hemagglutination. Refer to individual test codes
Contraindications:	Patients >7 days old

References:

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Maier RF, Obladen M, Scigalla P, et al (1994) The Effect of Epoetin Beta (Recombinant Human Erythropoietin) on the Need for Transfusion in Very-Low-Birth-Weight Infants. European Multicentre Erythropoietic Study Group. N Engl J Med 30(17):1173-8

Strauss RG (1994) Erythropoietin and Neonatal Anemia. N Engl J. Med 330(17):1227-8

Hume H and Bard H (1995) Small volume red blood cell transfusions for neonatal patients. Transfus Med Rev 9(3):187-99

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Luban NL, Strauss RG, and Hume HA (1991) Commentary on the safety of red cells preserved in extended storage media for neonatal transfusions. Transfusion 31(3):229-35

Sayers MH, Anderson KC, Goodnough LT, et al (1992) Reducing the risk for transfusion-transmitted Cytomegalovirus infection. Ann Intern Med 116(1):55-62