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 DAT: 4 – 24 hours
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

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Interpretive

Reference Range:	N/A – see report
Limitations:	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. 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 A_1, B, and O red cells. Exchange transfusion is seldom necessary in ABO hemolytic disease. Complications of exchange transfusion have been compiled.
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

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Sayers MH, Anderson KC, Goodnough LT, et al (1992) Reducing the risk for transfusion-transmitted Cytomegalovirus infection. Ann Intern Med116(1):55-62

Updates:

2/1/2019: Updated TAT for DAT.