

COMPARISON OF FOUR CONVENTIONAL PRE-TRANSFUSION METHODS TO DETECT UNEXPECTED ANTIBODIES

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Transfusion services have a variety of tests to allow them to detect clinically significant, unexpected antibodies in patient's serum which have the potential for causing hemolytic transfusion reactions (HTR). A HTR is a condition in which a patient receiving a red blood cell transfusion has antibodies that attack the donor red blood cells. This can occur during or following a red blood cell transfusion resulting in compromised patient health or even death. Historically, this testing has been done using traditional test tube methods in which enhancement media such as Polyethylene Glycol (PEG) or Low Ionic Strength Solution (LISS) is added to patient serum to detect unexpected antibodies. Automated methods for testing these antibodies have evolved recently. Although the newer methods are simpler and faster it is critical that these methods maintain, if not improve, the sensitivity and specificity of more traditional tube methods. It has been suggested that the newer methods are not as specific for detecting certain antibodies. In this research project patient samples with anti- K, C, E, S, and Jk^a which are common clinically significant, unexpected antibodies, will be used to compare two semi-automated systems: the ID Microtyping Gel Columns manufactured by Ortho-Clinical Diagnostics, and the solid phase Immucor Capture Platform, as well as two test tube methods using PEG and LISS. Fifty patient serum samples will be collected from participating hospitals and tested using all four methods. It is expected that the newer methods will be less specific. This information can then be used to encourage transfusion services to use tests with the greatest sensitivity and specificity.