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| **Quick Backtype-Heart Transplant** |
| **Purpose** | This procedure provides instructions for the tube testing of patient ABO group antibodies to determine if a heart transplant patient needs to have a plasma apheresis before heart transplant surgery. |
| **Policy Statements** | * Testing the patient’s plasma/serum for expected antibodies with A1 and B reagent
* Testing will be performed on all patients who are going to have an ABO incompatible heart transplant regardless of age.
* The patient should have a previous blood type on file.
* This is a STAT test.
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| **Test Codes** | BTHT |
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| **Materials** | **Equipment** | **Reagents** | **Supplies** |
| * Centrifuge
* Agglutination Viewer
 | * Biotestcell A1 and B
 | * 10 x 75 mm test tubes
* BB Pipettes
* Marker
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| **Sample** | Fresh patient samples of EDTA or clotted whole blood collected following general blood collection procedures are acceptable. See **Collection of Patient Specimens.**The specimen should be tested as soon as possible after collection. If test is delayed, the EDTA or collated specimen should be stored at 2-6°C and may be tested within 10 days from collection.Specimens exhibiting gross hemolysis or contamination should not be used. |
| **Quality Control** | Refer to **TS 18.2 Performing Daily Reagents Quality Control**Reagents must be evaluated each day of use with appropriate controls. |
| **Before** **You Begin** | 1. Confirm sample acceptability and review patient history per procedure
2. Label tubes per **TS 4.6 Labeling Tubes**
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| **Procedure** |  |
|  | **Step** | Action |
| Backtype | 1 | Pipette 2 drops of the patient plasma/serum to the corresponding labelled tube. |
|  | 2 | Add 1 drop of reagent red cells to tubes to the corresponding labelled tube. |
|  | 3 | Mix all tubes. |
|  | 4 | Centrifuge for the posted optimal time in a calibrated serologic centrifuge |
|  | 5 | Remove the tubes from the centrifuge and confirm the tube ID with the request and on the computer screen or downtime worksheet |
|  | 6 | Gently resuspend the cell button and examine macroscopically for hemolysis and agglutination immediately after centrifuging. |
|  | 7 | Immediately record the grade reactions in the computer or on the downtime worksheet. |
|  | 8 | Call CVOR with result. |
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|  | **Step** | Action |
| Entering results for Quick Backtype | 1 | Enter Blood Order Processing by the patient sample accession number. |
|  | 2 | Click on the Patient Specimen tab. |
|  | 3 | Enter the grading of the tube agglutination reading in the appropriate grid cell.Grid CellsBTQA=A1CBTQB= BC**You need to use these codes or you will get QA failures. These codes post reaction results as numbers in Cerner which is need for ABO incompatible transplants.**

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| A1CB/BCB Grid Results |
| Keyboard Key | Reaction |
| ! (P1) | 1+ |
| @ (P2) | 2+ |
| # (P3) | 3+ |
| $ (P4) | 4+ |
| ) (N0) | 0 |

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|  | 4 | Record the backtype interpretations in the interpretation field according to the testing procedure.

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| Interpretations |
| P1BT | 1+ |
| P2BT | 2+ |
| P3BT | 3+ |
| P4BT | 4+ |
| N0BT | 0 |

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|  | 5 | Review tube reaction results and interpretation entry if QA failures occurs.

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| **If** | **Then** |
| An enter error was made | Re-enter tube reading results and/or interpretation. |
| Entry confirmed | * Acknowledge QA warnings. All QA failures have to be reviewed and responded by a second tech.
* Respond to QA failures with a reason code or free text entry.
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|  | 6 | Save Results |
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| **Limitations** | Tubes should be read immediately following centrifugation and delays may cause a dissociation of antigen-antibody complexes resulting in false negative or weak positive reactions.Cold agglutinins, a positive direct antiglobulin test, or rouleaux may cause false positive reactions |
| **References** | 1. Product Insert, Biotestcell A1 and B, Bio-Rad Medical Diagnostics, current edition
2. AABB Standards, current edition
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| **Approval****Workflow** | Transfusion Service/Lab Director |
|  |  |
| **Historical Record** | **Version** | **Written/Revised by:** | **Effective Date:** | **Summary of Revisions** |
| 1 | S. Cassidy | 06/17/2022 | Initial Version |