



## Common Technical Errors Attributed to ABO Discrepancy

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### Editorial

ABO discrepancies occur when there are unexpected reactions in forward and reverse grouping and the results do not tally each other.

#### Common sources of technical errors that give rise to ABO Discrepancies

- **Inadequate identification blood specimens, test tubes or slides:** If the Technician fails to identify the specific samples, test tubes or slides used in the testing procedure on account of improper marking on them or due to inattentiveness, there may be unexpected and untallied results in cell and serum grouping. Therefore, appropriate marking on the test tubes/slides, being used in the procedure is to be done in order to identify them properly and the Technician should always be cautious and vigilant during the time of testing procedure.

- **Improper Cell suspension:** If the cell suspension becomes too heavy or too light, there may be unexpected results in reaction giving rise to discrepancies which may be avoided by preparing appropriate cell-suspension as per existing Standard Operating Procedure (SOP).

- **Clerical errors:** Clerical errors play a major role in ABO discrepancies. To avoid these errors, technicians must crosscheck or double-check the samples or labels on the samples prior to the testing procedure.

- **A mix-up of samples:** This is not uncommon in laboratory settings where mixing of samples may occur due to unnecessary hurriedness, lack of care and haphazard work which should be avoided.

- **Missed observation of hemolysis:** Hemolysis of both sample and reagent cells may result in discrepancy which may be missed sometimes by the technician. Therefore, before beginning the test, both sample and reagent cells must be observed for signs of hemolysis like pinkish discoloration of plasma, reduction in cell volume etc.

- **Forgot to add reagents:** This happens very commonly in laboratory where technician forgets to add reagents. To avoid this discrepancy, anti-sera and plasma must be added prior to adding the cell suspension.

- **Uncalibrated Centrifuge:** Sometimes, uncalibrated Centrifuge machine may give rise to unexpected or incorrect test results. In order to avoid it, the centrifuge machine should be properly and timely calibrated.

- **Contaminated reagents:** Reagents should be carefully inspected before putting it to test.

#### The following steps can be undertaken to resolve such discrepancies

1. By repeating the test on the same sample
2. All technical factors are to be reviewed and corrected.
3. A new sample may be drawn from the recipient to repeat the RBC & serum grouping.
4. It is also essential to acquire information regarding patient's age, diagnosis, transfusion history; medications and h/o pregnancy which may be extremely helpful to and provide important clues to the cause of discrepancies.

### OPEN ACCESS

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