

Proficiency Testing Investigation: Sources of Error

The sources of error and internal review worksheets are for internal use. Submission to the DAP is optional.

| SOURCES OF ERROR | |
|--|--|
| Method/equipment | |
| <input type="checkbox"/> Calibrator – incorrect calibrator value/calibrator variability/calibrator problem <input type="checkbox"/> Reagents – imprecision between reagent lot numbers/problem in manufacture, including lot number problems/unstable <input type="checkbox"/> Method – imprecision/low-end sensitivity problem <input type="checkbox"/> Method – bias <input type="checkbox"/> Incorrect identification of organism by system database <input type="checkbox"/> Failure of automated system to generate correct susceptibility test result <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 30px; width: 100%; margin-top: 5px;"></div> | <input type="checkbox"/> Poor staining leading to incorrect results <input type="checkbox"/> Inappropriate incubation conditions <input type="checkbox"/> Instrument defect /carryover from previous sample/ repair or PM required <input type="checkbox"/> Instrument/reagent vendor-identified reagent/calibrator problem <input type="checkbox"/> Instrument/reagent vendor recall affecting patients/ PT <input type="checkbox"/> Instrument computer/software problem <input type="checkbox"/> LIS software problem <input type="checkbox"/> LIS rounds PT results inappropriately |
| Technical | |
| <input type="checkbox"/> Sample not assayed/missed reporting deadline <input type="checkbox"/> Inappropriate handling of sample (including reconstitution, dilution, mixing, pipetting, storage) <input type="checkbox"/> Inappropriate handling of standards or reagents (including reconstitution, dilution, mixing, pipetting, storage) <input type="checkbox"/> Inadequate instrument or equipment maintenance/expired materials used <input type="checkbox"/> Technique – poor technique <input type="checkbox"/> Sample mix-up <input type="checkbox"/> Procedure – written procedure not followed <input type="checkbox"/> Procedure – procedure requires revision <input type="checkbox"/> Procedure – poor validation of method <input type="checkbox"/> Misinterpretation of result/cell/organism morphology <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 30px; width: 100%; margin-top: 5px;"></div> | <input type="checkbox"/> Inappropriate interpretive criteria used <input type="checkbox"/> Failure to report/interpret mixed culture <input type="checkbox"/> Inappropriate isolation techniques <input type="checkbox"/> Incorrect inoculum used <input type="checkbox"/> Run accepted in non-linear range <input type="checkbox"/> Internal QC – limits set too wide/QC program inadequate <input type="checkbox"/> Internal QC – material not assayed at relevant analyte concentration/inappropriate material <input type="checkbox"/> Internal QC – shift recognized but no action taken <input type="checkbox"/> Run accepted even though internal QC was out of range or not identified as out of range prior to performing assay <input type="checkbox"/> QC material outdated or improperly stored |

Proficiency Testing Investigation: Sources of Error *continued*

| SOURCES OF ERROR | |
|---|---|
| PT material | |
| <input type="checkbox"/> Inappropriate shipping (including late shipment/leakage in transit/breakage) <input type="checkbox"/> Sample contamination/Hemolysis <input type="checkbox"/> Unsuitable PT material <input type="checkbox"/> Unstable PT material <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%;"></div> | <input type="checkbox"/> Presence of interfering substances <input type="checkbox"/> Matrix effect incompatible with method <input type="checkbox"/> Survey material bias <input type="checkbox"/> Poor image quality for morphological assessment |
| PT provider evaluation | |
| <input type="checkbox"/> Peer group inappropriate <input type="checkbox"/> No comparable peer group <input type="checkbox"/> Peer group size inadequate/too small <input type="checkbox"/> Target value inappropriate <input type="checkbox"/> No participant consensus <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%;"></div> | <input type="checkbox"/> Incorrect data entry by provider <input type="checkbox"/> Incorrect method assigned by provider <input type="checkbox"/> Narrow statistical range – not clinically significant <input type="checkbox"/> Vendor does not accept “<” or “>” results |
| Clerical errors | |
| <input type="checkbox"/> Transcription error <input type="checkbox"/> Incorrect reporting units/misplaced decimal <input type="checkbox"/> “>” or “<” used inappropriately <input type="checkbox"/> Calculation/conversion/rounding error <input type="checkbox"/> Mislabeled vial or slide <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%;"></div> | <input type="checkbox"/> Incorrect method/instrument/reagent code/analyte/form <input type="checkbox"/> Computer keying error/Website data entry error <input type="checkbox"/> Electronic transmission/faxed results did not go through <input type="checkbox"/> Results not “approved” prior to submission |
| Random or unknown | |
| <input type="checkbox"/> Investigation yields no satisfactory explanation and unable to repeat erroneous result | |
| TRANSFUSION MEDICINE | |
| General sources of error | |
| <input type="checkbox"/> Test result misinterpreted – staff lacks experience/needs training <input type="checkbox"/> Test result misinterpreted – written procedure inadequate <input type="checkbox"/> Test result misinterpreted – background in tube test not examined <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%;"></div> | <input type="checkbox"/> Test result misinterpreted – clinical information missing <input type="checkbox"/> Written procedures not followed <input type="checkbox"/> Additional testing not performed <input type="checkbox"/> Results not transcribed correctly onto PT form <input type="checkbox"/> Did not check that patient identification/ID on sample and paperwork matched |

Proficiency Testing Investigation: Sources of Error *continued*

| TRANSFUSION MEDICINE | |
|---|--|
| Crossmatch | |
| <input type="checkbox"/> Incorrect antiglobulin crossmatch | <input type="checkbox"/> Incorrect interpretation of results |
| <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div> | |
| Phenotyping | |
| <input type="checkbox"/> Test performed on recently transfused patient | <input type="checkbox"/> Incorrect result reported |
| <input type="checkbox"/> Test not performed on unit to be issued for patient with Antibody present | |
| <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div> | |
| ABO | |
| <input type="checkbox"/> Mixed field agglutination not detected | <input type="checkbox"/> Weaker than expected/unexpected reaction reported with no further action or comment |
| <input type="checkbox"/> Mixed field agglutination reported that was not present | <input type="checkbox"/> Incorrect ABO group |
| <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div> | |
| Direct antiglobulin test | |
| <input type="checkbox"/> Incorrect reagent/method used | <input type="checkbox"/> Incorrect result reported |
| <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div> | |
| Rh | |
| <input type="checkbox"/> Mixed field agglutination not detected | <input type="checkbox"/> Rh interpretation made in the presence of mixed field agglutination |
| <input type="checkbox"/> Incorrect results reported for anti-D and/or Rh control | <input type="checkbox"/> Incorrect Rh interpretation |
| <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div> | |
| Antibody detection | |
| <input type="checkbox"/> Antibody detected that was not present | |
| <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div> | |
| Antibody identification | |
| <input type="checkbox"/> Antibody incorrectly identified | <input type="checkbox"/> Antibody identification not performed |
| <input type="checkbox"/> Other (specify): <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div> | |

Proficiency Testing Investigation: Sources of Error *continued*

| INTERNAL REVIEW | | | | |
|--|-----------------------|-----------------------|-----------------------|--|
| Internal review | Yes | No | N/A | Comments <i>If you require additional space, please attach a separate electronic document.</i> |
| Proficiency testing material was received in satisfactory condition | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| The appropriate sample was tested | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Procedures for sample preparation were followed | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| The appropriate method was used for analysis | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| The method performed according to documented procedures | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Appropriate reagents and controls were used | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Equipment was operated according to documented procedures | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Equipment has been appropriately maintained | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| QC was acceptable at the time of testing PT samples | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| PT report was examined for discrepancies prior to submitting | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Results were interpreted appropriately | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Results were correctly coded for instrument/method /reagent/units | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Results were submitted prior to due date | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Repeat testing on properly stored PT sample produces similar results | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| There is a bias/trend leading to failure | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |

Proficiency Testing Investigation: Sources of Error *continued*

| TRANSFUSION MEDICINE | | | | |
|--|-----------------------|-----------------------|-----------------------|--|
| This problem has occurred previously with PT samples | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Data is consistent with previous PT distributions | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Recalibration of the method was performed | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| A reference or secondary method comparison was performed | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Equipment/reagent/kit manufacturer was consulted | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| PT program results compared to appropriate method/ peer group | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| There was a low consensus for the analyte/sample | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| There were <10 participants in the evaluation group | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| PT program provider was consulted | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Patient results were acceptable at the time of PT testing | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Laboratory director has been advised of all PT result deficiencies | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |