|  |  |  |  |
| --- | --- | --- | --- |
| Body Fluid Chemistry Testing | | | |
| **Purpose** | This procedure provides instructions for BODY FLUID CHEMISTRY TESTING on ABBOTT ALINITY ci in Minneapolis laboratory. | | |
| **Policy Statements** | This procedure applies to all Chemistry personnel responsible for the testing and handling of Body Fluids on the Abbott Alinity ci in Minneapolis Laboratory | | |
| **Clinical Significance** | Collecting and testing various body fluids can be an important aid in identifying specific organ damage or diagnosing the underlying cause of an effusion or other disease process. Results must be interpreted by the clinician in the presence of clinical findings and frequently in conjunction with serum values. No normal ranges or reference ranges are available for body fluids.  Differentiation between transudate and exudate is usually an important first step in diagnosis and in the course of laboratory testing. Transudates form due to an imbalance in the regulation of fluid filtration and reabsorption. Exudates form as a result of a condition affecting the membrane, such as inflammation or malignancy. Transudates are usually clear in appearance, while exudates are cloudy. Differential tests include a protein, cell count and LDH. | | |
| **Analyzer** | Abbott Alinity ci (MALCI) | | |
| **Sunquest Test Codes** | |  |  | | --- | --- | | **Test Name** | **Sunquest Test Code** | | Fluid Glucose (mg/dL) | FGLU | | Fluid LDH (U/L) | FLDH | | Fluid Total Protein (g/dL) | FTP | | Fluid Triglyceride (mg/dL) | FTRG | | | |
| **Specimen** | Sample:  Body fluids, pleural fluid, pericardial fluid, peritoneal fluid, that are liquid, **not viscous**, collected in lithium heparin preferred  **Minimum volume:** 200 µL preferred, 100 µL minimum,  **Stability:** RT / 8 hours, 2-8 °C / 7 Days. DO NOT FREEZE, as this denatures the specimen.  **Rejection criteria:** Unlabeled tube, viscous or clotted sample  **Preparation:**   1. Body fluid specimens should be centrifuged until a supernatant similar to serum or plasma is obtained, according to Specimen Processing procedures prior to analysis. 2. Body fluid supernatant should be physically separated from cells or sediment as soon as possible with a maximum limit of two hours from the time of collection. 3. Specimens should be free of particulate matter. 4. Transfer body fluid to a properly labeled sendout tube. Minimum labeling includes sample accession ID, and/ or patient name, medical record number, collection date and time. | | |
| **Reagents** | Refer to individual test procedures | | |
| **Special Safety Precautions** | Refer to manufacturer’s and laboratory safety policies and procedures. | | |
| **Quality Control** | Two Quality Control samples run daily for each assay are used to control body fluid testing. Refer to the individual assay procedures for specific QC products. | | |
| **Procedure** |  | | |
|  | **Step** | Action | **Related Document** |
|  |  | Refer to the Abbott Alinity Operating Procedure for instructions on programming and running samples. | [Abbott Alinity ci Operating Procedure](https://starnet.childrenshc.org/References/labsop/chem/operator/alinity-ci-series-operations-manual.pdf) |
|  |  | Refer to the individual assay procedures for specific information regarding the testing. |  |
|  |  | Test Steps: Sampling, reagent delivery, mixing, processing and printing of results are automatically performed by the Abbott Alinity system. |  |
|  |  | The test codes listed on page one of this procedure are a complete list of testing that can be reported from the Abbott Alinity ci. Other body fluid chemistry requests are sent to the appropriate reference lab. See MIQ, #1 Test Inquiry. |  |

| **Interferences** | Interfering substances are identified in each individual assay procedure, such as red cells on lactate dehydrogenase samples. Fluids that appear moderately hemolyzed should not be tested for LDH. | | | |
| --- | --- | --- | --- | --- |
| **Reference Range** | |  | | --- | | Reference Ranges are not established for body fluid specimens. | | | | |
| **Limitations** | * The instrument reporting system contains flags and comments to provide the user with information regarding instrument processing errors, instrument status information and potential errors in albumin results. Refer to the Abbott Alinity ci-series Operating Manual for the meaning of report flags and comments, and instructions for addressing them. Do not report results until a report containing flags and/or comments is resolved. * Guidelines for testing body fluid samples are not universally established. This protocol contains the list of tests that have been validated at Children’s Minnesota, and for which Proficiency Testing material is available. Body fluid testing is limited to these tests. * Other analytes in body fluid may be sent to Mayo Medical Laboratories for testing. | | | |
| **Result Reporting** | Analytical Measuring Ranges verified for each assay:  Glucose Body Fluid: 5 to 700 mg/dL  LDH Body Fluid: 30 to 1000 U/L  Total Protein Fluid: 1.0 to 10.0 g/dL  Triglyceride Body Fluid: 11 to 900 mg/dL  Dilutions not specified nor recommended. | | | |
| **Specimen Storage** | Promptly stopper tested specimen and store upright in numbered specimen rack by accession number. Every 8 hours remove specimens to refrigerator storage. Samples are retained 7 days in specimen storage refrigerator. | | | |
| **References** | 1. Tietz NW. Textbook of Clinical Chemistry. Philadelphia: WB Saunders Co., 1986:52–53 (techniques and procedures to minimize laboratory infections), 478–497 (specimen collection and storage recommendations). 2. Urinalysis and Body Fluids, 2nd Edition, Susan King Strasinger, FA Davis Company, Philadelphia, 1989. 3. Clinical and Laboratory Standards Institute (CLSI). *Analysis of Body Fluids in Clinical Chemistry.* 2nd Edition.C49-A (ISBN 978-1-68440-023-2). Clinical and Laboratory Standards Institute, 950 West Valley Road, Suite 1400, Wayne, Pennsylvania 19087-1819 USA, 2018 4. Mayo Medical Laboratories, Superior Drive Support Center, 3050 Superior Drive NW, Rochester, MN 55901 | | | |
|  |  |  |  |  |
| **Historical Record** | **Version** | **Written/Revised by:** | **Effective Date:** | **Summary of Revisions** |
|  | K. Carlson | 1996 | Initial Version |
|  | L. Lichty | 2003 |  |
|  | L. Lichty | 2003 | Revised |
|  |  | D. Helfinstine/L.Lichty | April 1, 2011 | New format, renumbered from CH 6.06 |
|  |  | L. Lichty | 6/1/2015 | Updated for Vista |
|  |  | Erin Bartos | 12/9/2016 | Removed Body Fluid pH |
|  |  | Kelsi Brown | May 1, 2019 | Updated link to Vista Operating Procedure |
|  |  | | | |