

PROTOCOL FOR CSF SAMPLES

Bovine albumin or patient serum is added to the sample to increase the protein content in order to prevent cell rupturing from low fluid osmolarity during storage. The addition of the protein raises the osmolarity stopping this rapid cell destruction from occurring. As a result, an accurate cell count and cytology can be done on a delayed basis. Once protein is added to a CSF sample, it cannot be used for protein determination. In addition, the sample should not be used for culture. The presence of this small dilution of albumin will not alter the cell count in the CSF significantly.

Preparation of autologous serum by the clinician.

Perform prior to CSF collection as lipid serum would not be suitable for testing.

1. Collect blood sample from patient into serum vacuum tube
2. Allow sample to clot
3. Separate serum by centrifugation.
4. Add appropriate amount of the patient's own serum (described below) to CSF sample.

Note:

1. Presence of hemoglobin is not desired but will probably yield comparable results for cell identification purposes
2. Presence of lipid unsuitable

CSF submission procedure

1. Collect 3 tubes of CSF fluid for submission to the laboratory. Tubes one and two should contain at least 0.250 milliliters of CSF (approximately 3 drops). Tube three should contain one milliliter (approximately 10 drops). Label each tube for its purpose as follows:
 - Tube 1: No albumin/patient serum added. Submit for culture and sensitivity (minimum of 1 drop)
 - Tube 2: No albumin/patient serum added. Submit for protein measurement and cell counts (minimum of 3 drops)
 - Tube 3: Albumin or patient serum added. Submit for cytology evaluation. Add 0.1 milliliter (one drop) of bovine albumin or patient serum for a final concentration of 11% (10 drops CSF and 1 drop albumin or patient serum).
 - How to label the tubes
 - a. Tube 1, no albumin/patient serum: C/S
 - b. Tube 2, no albumin/patient serum: Protein and Cell counts
 - c. Tube 3, albumin/patient serum added: Cytology

2. The **samples for cell counts, total protein and cytology** can be stored at **39 degrees Fahrenheit** (i.e. refrigerated) for up to 48 hours. The **sample for culture** should be kept at **room temperature** to ensure the viability of fastidious organisms.