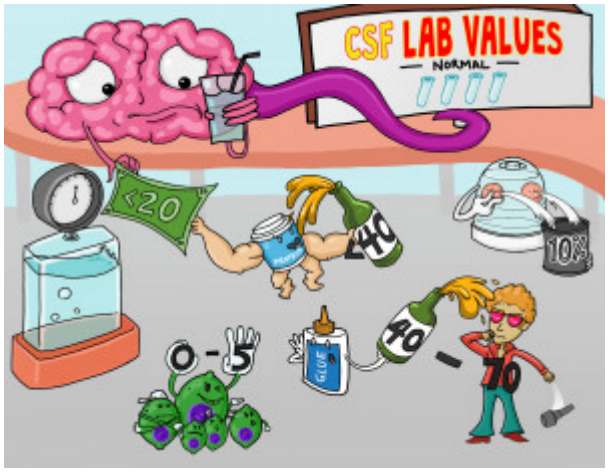
CSF Lab Values: Normal

Cerebrospinal fluid (CSF) analysis is a diagnostic study used to provide information related to CNS disorders. CSF is a clear and colorless liquid that surrounds the brain and spinal cord. CSF contains glucose and has little protein and lymphocytes. The pressure is usually less than 20 cm H₂O. A lumbar puncture or ventriculostomy may be used to obtain CSF samples (refer to the Picmonic on "Lumbar Puncture").



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Pressure: < 20 cm H2O

Pressure-gauge with Less-than (20) Twenty dollar bill

Pressures less than 20 cm H₂O are considered normal as pressures more than 20 indicate increased spinal pressure, possibly due to bleeding, infection, or the presence of tumors.

Color/Appearance: Clear or Colorless

Clear fluid

Normal CSF should be clear and colorless. Pink-red or orange color indicates the red blood cells are present, while yellow CSF indicates bilirubin present due to hemolysis of RBCs. Possible causes include jaundice, increased CSF protein, subarachnoid hemorrhage, hemoglobinemia, or hypercarotenemia.

Proteins: < 40 mg/dL

Mr. Protein less than (40) oz

Total normal protein in the CSF is between 15-45 mg/dL, while older adults may have a normal value of up to 70 mg/dL. A value between 45-100 mg/dL may indicate a paraventricular tumor, while a value between 50-200 mg/dL is due to a viral infection. A value more than 500 indicates a bacterial infection or Guillain-Barre syndrome.

Lactate Dehydrogenase: 10% of Serum Level

Lactating Dehydrator with (10) Tin

Normal lactic dehydrogenase in CSF is 10% of serum level or less than 40 units/L in adults. Lactic dehydrogenase levels exceeding 10% may indicate infection or inflammation of the central nervous system. Excessive levels may also indicate bacterial meningitis, neurosyphilis, or tumors within the brain or spinal cord.

Cells: 0-5 Small Lymphocytes

0 to (5) Hand Lime-lymphocyte

Normal cells in the CSF include 0-5 small lymphocytes/mm3. More than 5 lymphocytes/mm3 may indicate a reaction to an infection, blood, tumor, or chemical substance.

Glucose: 40-70 mg/dL

Glue-bottle (40) oz and (70)s guy

Normal values of glucose detected in the CSF are between 40-70 mg/dL. Cerebrospinal fluid values less than 40mg/dL are highly suggestive of bacterial meningitis.

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