

**Instructional Objectives / Learning Outcomes**  
**DMP 775, Veterinary Clinical Pathology**  
**Department of Diagnostic Medicine/Pathobiology**  
**College of Veterinary Medicine, Kansas State University**

Material not in *Fundamentals of Veterinary Clinical Pathology, 2002*

**CSF analysis**

1. If given the results of a CSF analysis and other pertinent clinical information, use appropriate terms to classify the CSF as an inflammatory or neoplastic pleocytosis.
2. Describe each component of routine CSF analysis (including units of measurement) and the purposes or potential value of each analytical procedure.
3. Explain why quick analysis of CSF is needed to obtain accurate results for some CSF tests.
4. Explain why CSF analysis may be difficult in many veterinary practices.
5. Explain and recognize an advantage and a disadvantage of collecting CSF into an EDTA-containing tube.
6. Explain and recognize why contamination of the CSF with blood can greatly alter the composition of the collected sample.
7. Explain and recognize information that can help us differentiate pathologic hematorrhachis from iatrogenic hemorrhage due to the collection procedure.
8. Explain the pathogeneses (how or why) of each of the following and propose and recognize disorders (diseases, pathologic states) which might cause the following:
  - a. Neutrophilic (suppurative, purulent) pleocytosis
  - b. Mononuclear (nonsuppurative, non-purulent) pleocytosis
  - c. CSF with many erythrocytes
  - d. Dark yellow to orange CSF
  - e. CSF containing increased total protein concentration
  - f. CSF containing lipophages
9. Define the following: bilirrhachia, xanthochromia, hypoglycorrachia, pleocytosis
10. Recognize data that represent “albuminocytologic dissociation” (or “protein-cytologic dissociation”) and recognize or explain what it suggests.
11. Explain why CSF should be submitted to attempt to culture microorganisms if:
  - a. Organisms are seen in a microscopic examination
  - b. Organisms are not seen in a microscopic examination