# PBLD

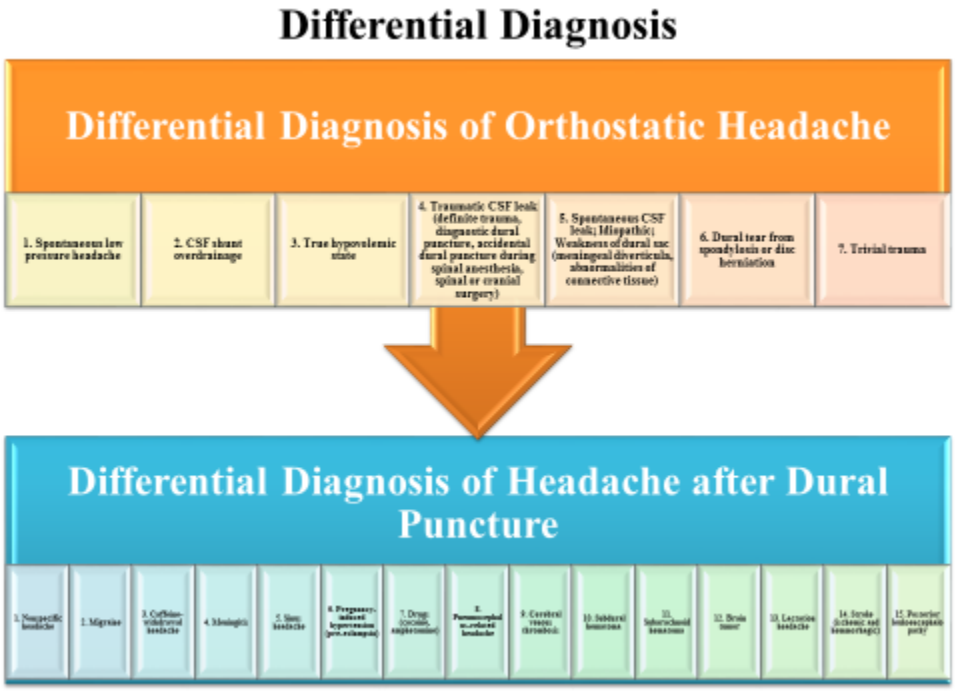
## Pain Service, we need you to do a blood patch in this teenager with headaches after lumbar puncture and intrathecal chemotherapy

**Moderators:** Stephen Hays, M.D., Gregory Simmons, M.D.

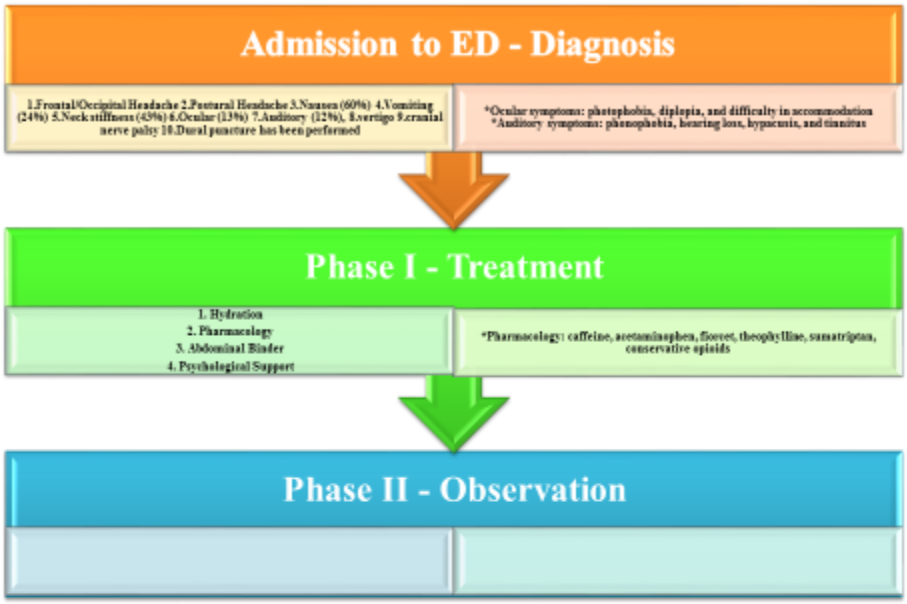
**Institution:** Monroe Carell Children's Hospital at Vanderbilt University Medical Center, Nashville, Tennessee

**Objectives**:

- Discuss:
    - Etiology of post dural puncture headache
    - Conservative management of post dural puncture headache
    - Indications for epidural blood patch
    - History of post dural puncture headache and epidural blood patch
    - Outcomes for epidural blood patch

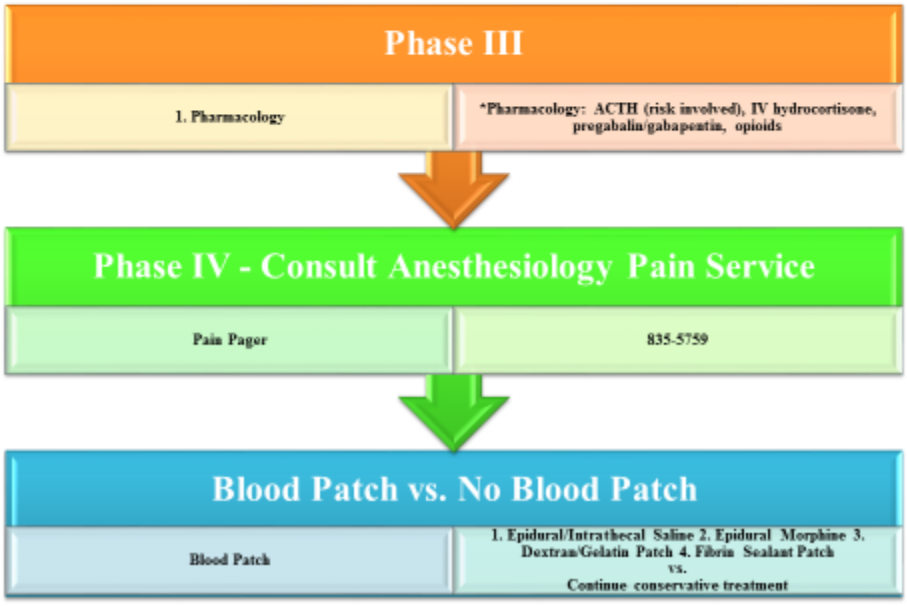


# Emergency Department




# Floor Admission

(General Pediatrics)



**Case history:**
A 13 year old 31kg female with a diagnosis of B cell acute lymphoblastic leukemia presented to emergency department with chief complaint of intractable headache status post lumbar puncture and administration of intrathecal chemotherapy.

**Questions:**
What is the presentation of a patient with post dural puncture headache? What is the differential diagnosis associated with intractable headache? How is post dural puncture headache diagnosed? What is the conservative management of a patient presenting with post dural puncture headache?

**Case history and physical examination (continued):**

This patient was diagnosed with B cell acute lymphoblastic anemia at age nine. She has undergone induction of chemotherapy for remission and is currently receiving consolidation/intensification regimen of her chemotherapy. This process involves multiple lumbar punctures for diagnostic CSF retrieval and administration of intrathecal methotrexate. She has received three rounds of intrathecal chemotherapy with the last administration two days prior to presentation in ED. She states that the headache began yesterday afternoon. The headache is occipital in location. The headache had been constant since onset. She describes the pain as dull and throbbing. Upon further questioning she states that the headache is positional, worsening upon sitting up or standing. She answers that she is sensitive to light and loud noises. She has been taking OTC acetaminophen and ibuprofen with minimal relief of symptoms.

**Questions:**
Does this patient present as post dural puncture headache? Does intrathecal chemotherapy complicate the diagnosis? What discussion should you have with the patient regarding a diagnosis of PDPH and potential strategies for treatment? Discuss alternatives to using autologous blood such as donated blood, irradiated blood, saline, fibrin, or dextran patches. Would you order any further studies?

**Case progression:**
The patient was admitted to general pediatric ward under pediatrics after six hours of conservative management in the ED. 18 hours after presentation in ED the patient receives an epidural blood patch. She immediately gains almost complete relief of headache with 17 cc autologous blood placed in epidural space. Follow up 48 hours after discharge, the patient claims to have complete relief and no recurrent symptoms.

**Questions:**
What is the time frame for conservative management, and when is an admission indicated? When an epidural blood patch is indicated, how is it performed. What is the efficacy of epidural blood patch? What are the complications of epidural blood patch? Does the chemotherapy and/or leukemia cause thrombocytopenia or coagulopathy? Would there be a potential for injecting autologous blood with cancer cells in this patient? Increased infectious risk secondary to

immunocompromised? What is the management for a patient who does not receive relief from an epidural blood patch?

**Discussion:**

-how can we attempt to prevent post dural puncture headache
-how can we best utilize resources to give patients quality outcomes in a timely fashion
-what are the best techniques for epidural blood patch

Works Cited