

# Differential Diagnosis

**DISCLAIMER:** Educational only. Seek medical care.

## Complaint

Severe headache, neck stiffness, fever, photophobia

## Red Flags

- Severe headache (especially new onset or 'worst headache of life')
- Neck stiffness (nuchal rigidity)
- Fever
- Photophobia

## Differentials

**Meningitis (Bacterial, Viral, or Fungal) (High)**

**Supporting:** Severe headache, Neck stiffness, Fever, Photophobia, 25-year-old, previously healthy

**Tests:** Lumbar puncture (CSF analysis for cell count, protein, glucose, Gram stain, culture, PCR), Blood cultures, Complete Blood Count (CBC), C-reactive protein (CRP), Erythrocyte Sedimentation Rate (ESR)

**Subarachnoid Hemorrhage (SAH) (Medium)**

**Supporting:** Severe headache (could be thunderclap), Neck stiffness, Photophobia

**Tests:** STAT CT head without contrast, Lumbar puncture (if CT negative and suspicion remains, check for xanthochromia)

### Encephalitis (Medium)

**Supporting:** Fever, Severe headache, Photophobia (less specific, but possible)

**Tests:** Lumbar puncture (CSF analysis, PCR for viruses like HSV), MRI brain, Electroencephalogram (EEG)

### Complicated Migraine (Low)

**Supporting:** Severe headache, Photophobia

**Tests:** Exclusion of other serious conditions

## Workup

1. Immediate medical evaluation
2. STAT CT head without contrast (to rule out intracranial hemorrhage or mass effect before lumbar puncture)
3. Lumbar puncture with CSF analysis (cell count, protein, glucose, Gram stain, bacterial culture, viral PCR, especially HSV)
4. Blood cultures
5. Complete Blood Count (CBC)
6. C-reactive protein (CRP)
7. Erythrocyte Sedimentation Rate (ESR)
8. Basic metabolic panel (electrolytes, renal function)
9. Consider MRI brain if CT is negative and suspicion for encephalitis or other parenchymal pathology remains high