Approach to Headache

NEUROLOGY & MENTAL STATUS

100% KEY DECISION RULE
Ottawa SAH Rule[3]
sensitivity if any of 6 (spec 15.3%): nontraumatic, peak ≤1 h, intact

Headache that is new, changed, or unlike the usual pattern

→ Onset, tempo, pattern vs usual; vitals, fundi, neuro exam, temporal arteries[1,12]

→ Pregnant: BP (preeclampsia); red painful eye: glaucoma; housemates ill: CO level[1]

→ **Any red flag (SNNOOP10)?**

Yes →

Red flag: same-day workup; treat the emergency[1,12]

- Sudden: peak ≤1 h, or on exertion
- Fever, stiff neck, rash, confusion
- Focal signs, seizure, papilledema
- New after age 50; jaw claudication
- Cancer, immunosupp., pregnancy
- Positional, Valsalva, post-trauma

→ **Meningitis or GCA: cultures/ESR, then treat before LP or biopsy**[7,11]

Then: primary or secondary cause?

	Primary most common	**Vascular** thunderclap	**Infection, inflammation** fever or >50 y	**Mass or pressure** progressive
CAUSES	• Migraine ± aura • Tension-type; medication overuse • Cluster, other autonomic types	• **Subarachnoid hemorrhage** • **ICH, venous thrombosis, dissection** • **Pituitary apoplexy; also RCVS, PRES**	• **Bacterial meningitis** • **Encephalitis, brain abscess** • **Giant cell arteritis**	• **Tumour, abscess, hydrocephalus** • Idiopathic intracranial HTN • Low pressure: post-LP, CSF leak
CLUES	• POUND 4 of 5: migraine (LR 24)[6] • Band-like, mild, no nausea: tension • Brief orbital pain, tearing: cluster	• Ottawa: ≥40 y, neck pain, witnessed LOC[3] • Exertion, instant peak, ↓neck flexion[3] • Horner: dissection; OCP, puerperium: CVT[12]	• Fever, neck stiffness, confusion[11] • Jaw claudication (LR 4.2), diplopia[8] • Normal ESR: GCA less likely (LR 0.2)[8]	• Worse with Valsalva (LR 2.3)[6] • Worse lying down; morning vomiting[1] • Papilledema, diplopia, ↓LOC[12]
WORKUP	• Migraine/tension, normal exam: no scan[6] • New cluster-type: MRI (LR 10.7)[6,12] • Headache ≥8 d/mo: overuse risk; diary[4]	• Alert, intact, CT ≤6 h negative: no SAH[2] • CT >6 h negative: LP or CTA[2] • CTA head/neck; CT or MR venography[12]	• Blood cultures, then LP[11] • CT 1st: focal, seizure, GCS <10, immunosupp.[11] • ESR, CRP; temporal artery US or biopsy[9]	• Abnormal exam: image (LR 5.3)[6] • MRI with gadolinium[1] • LP opening pressure after imaging
MANAGE	• ED: IV prochlorperazine or GON block[10] • Ketorolac, metoclopramide; no opioids[10] • Acute drugs ≤2 d/wk; prevent if ≥4 bad d/mo[4,12]	• Neurosurgery; reverse anticoag; lower BP[5,12] • aSAH: oral nimodipine; secure aneurysm[5] • CVT: anticoagulate even if bleed[12]	• Antibiotics + dexamethasone ± acyclovir[11] • GCA: prednisone 40–60 mg now; rheum ≤24 h[7] • GCA with vision loss: emergency[7]	• HOB 30–45°, osmotherapy, neurosurgery[12] • Tumour edema: dexamethasone[12]

Stethopedia
stethopedia.ca/approach/headache

Evidence [1] Do 2019, Neurology [2] Godwin 2019, Ann Emerg Med [3] Perry 2013, JAMA [4] Medrea 2024, Can J Neurol Sci [5] Hoh 2023, Stroke [6] Detsky 2006, JAMA [7] Mukhtyar 2026, Ann Rheum Dis [8] Smetana 2002, JAMA [9] Dejaco 2024, Ann Rheum Dis [10] Robblee 2026, Headache [11] van de Beek 2016, Clin Microbiol Infect [12] Manual 2024–25, pp. 195, 197–198