

# Headache in Older Adults

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### Diagnostic Approach

A higher index of suspicion for a secondary headache (headache due to an underlying medical disorder) is warranted in older patients with new-onset headache. Older individuals are roughly 12 times more likely to have serious underlying causes, and, frequently, have different symptomatic presentations compared to younger adults (1).

**The probability of secondary headache increases steadily with age.**

Secondary headaches include those associated with the diagnosis of:

- Giant Cell Arteritis
- Post-herpetic Neuralgia
- Subarachnoid Hemorrhage
- Intracerebral Hemorrhage
- Intracranial Neoplasm Including Brain Metastases
- Acute Glaucoma
- Hypertension
- Sleep Apnea
- Cardiac Cephalgia
- Cervicogenic Pain

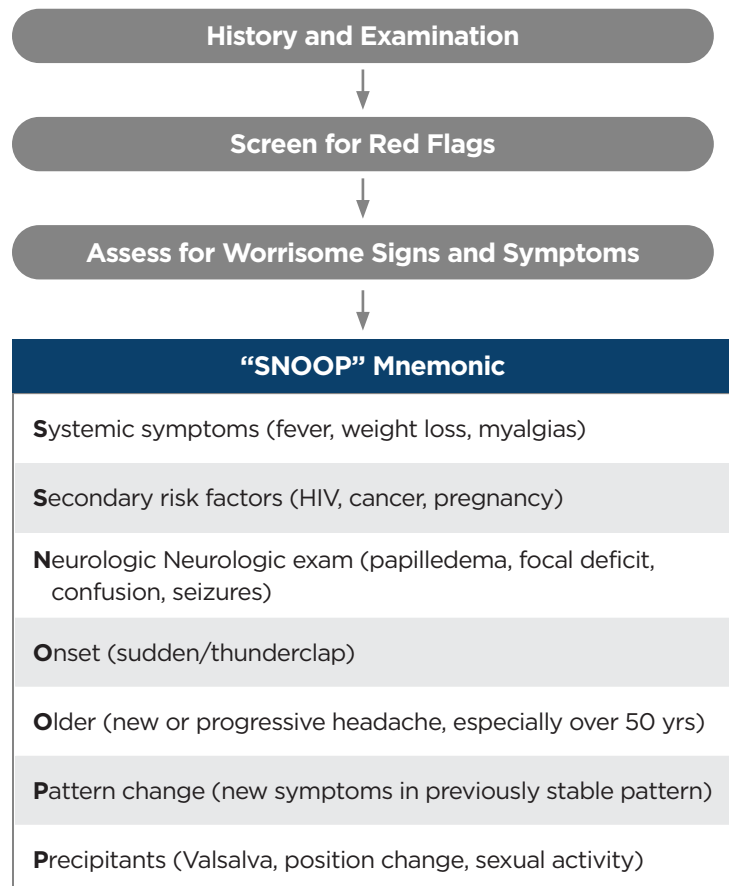
**In clinical practice, distinguishing between aura without headache (migraine), epileptic seizure and a transient ischemic attack or minor stroke can be difficult.**

It is important to take a good medical history and establish if the patient has a history of migraine with similar aura in the past. If the patient has new neurologic symptoms and/or an abnormal neurologic exam, then brain imaging, lab work and an EEG should be considered.

The presence of atypical features or red flags raises concern for secondary headaches.

The “SNOOP” mnemonic (now SNOOP4) helps to identify the red flags that indicate a headache requires further investigation.

### Rule Out Secondary Headache: When to be Concerned



### **Clinically, primary headaches in older adults can be different and atypical.**

- In older individuals, headache associated with migraine is more likely to be bilateral with less photophobia and phonophobia. (2)
- Migraine aura may also present without headache and a careful assessment is needed to exclude stroke, transient ischemic attack and seizure.
- The prevalence of aura without headache can increase from 6% to 16% in people after they reach the age of 55.

Finally, migraine attacks in the elderly tend to start more often (up to 60%) at night or in the early morning (6).

## **Clinical Pearls About Headache Prevalence and Headache Types in Older Adults**

Hypnic headache is a primary headache that impacts older adults (9) and develops while sleeping. Cerebral MRI and a 24-hour blood pressure monitoring should be performed in the diagnostic work-up of a hypnic headache. Caffeine, taken as a cup of strong coffee, seems to be the best acute and preventive treatment option.

### **What do we know about migraine prevalence in older adults?**

Primary headache disorders regularly occur in older adults, but with less frequency than in younger age groups. The prevalence of migraine was reported highest in females 18-44, where the three-month prevalence of migraine or severe headache was 23.5% (3). In contrast, the one-year prevalence of these headache types was only 10% in older adults (4).

As seen in younger patients, a transition from acute to chronic migraine can occur in the elderly, both with and without medication overuse.

## **Overview of Treatment Options for Migraine Management in Older Adults**

Lifestyle modifications, behavioral modalities, avoiding opioids and barbiturates is helpful in this population.

The best course of action for preventive medications can be stated as: “start low and go slow”.

In addition, procedures such as Onabotulinumtoxin A (Botox®) injections, nerve blocks (7) and neuromodulation devices can be used.

### **Comorbidities and medication issues in this population:**

Headaches are common side effects of H2-receptor antagonists (cimetidine; ranitidine), sulfonamides (trimethoprim-sulfamethoxazole), nitrates (isosorbide dinitrate) and spironolactone.

### **Acute Medications**

- Careful use of vasoconstrictive medications (such as triptans and DHE) should be practiced due to risk of coronary artery disease in the elderly.
- NSAIDs can cause side effects, including peptic ulcers and gastric hemorrhages, and specifically, when combined with anti-coagulative therapies, NSAID use can result in acute renal insufficiency, nephritis, proteinuria and edema.
- Antiemetics give a higher risk of extra-pyramidal symptoms as a side effect.

### **Preventive Medications**

- Avoid or limit tricyclic antidepressants due to risk of cognitive impairment, urinary retention and arrhythmias
- $\beta$ -blockers have an increased risk of sedative effects, conduction abnormalities, asthma, glaucoma, depressive symptoms and diabetes. However, they are probably safe to use in elderly patients with a heart failure comorbidity.
- Valproic acid might induce liver enzyme disorders, bone marrow suppression, delirium, tremor, ataxia and, in rare cases, a pyramidal syndrome with dementia
- Topiramate also has many side effects, most often nephrolithiasis, weight loss, sedative, cognitive side effects or agitation.
- Verapamil has been associated with gastrointestinal bleeds as it has antiplatelet effects (2).
- CGRP blocking medications could be used in older adults, when appropriate, with consideration that multiple clinical trials testing these agents had age limitations and older adults were not enrolled.

### **Medication Interactions**

Medication interactions and medication side effects are important considerations, especially if headache develops in relation to starting a new medication or dose change. It is estimated that 8% of headaches may be attributed, at least in part, to use of a specific medication (5).

Interactions to remember include:

- Fluconazole, Verapamil, moderate CYP3A4 inhibitors, can increase exposure to Gepants (Rimegepant).
- There is a strong association of development of hyponatremia following treatment with SSRIs and venlafaxine. Sodium levels have to be monitored (2).

## Summary:

- In older adults, primary headaches are diagnoses of exclusion, and treatment is affected by comorbidities and polypharmacy.
- Secondary headaches are a major consideration requiring appropriate workup.
- Most, but not all, headache treatments that are given to younger patients can be offered safely to older adults.

## Literature

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