



HEADACHE ASSESSMENT SUMMARY SHEET 1: Rule out Red Flag Headaches 3/1/13

Step 1: Rule out ominous headaches (pp 11-18)

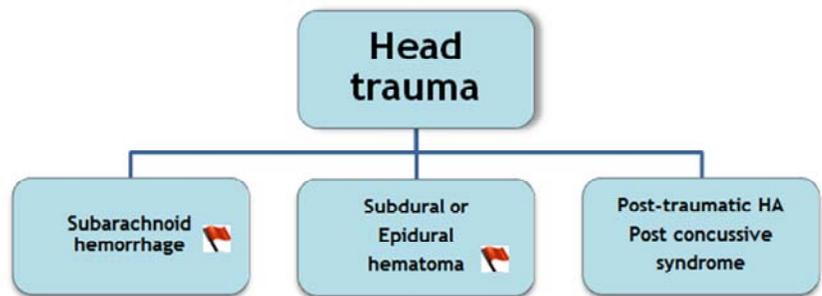
Quick screening questions for serious pathology

1. Is the headache of recent onset (less than 6 months)?
2. Is there any progression in the frequency or severity of the headaches?
3. Was the onset sudden and severe?
4. Are there any clues suggesting hard neurologic signs associated with the headaches?
5. Are there any cognitive changes associated with the headaches (e.g., memory loss, confusion, personality changes)?

If the answer to these five questions is no, the likelihood of a serious organic disease is remote

Codes for Less Common Headaches

Condition/Diagnosis	ICD-9 Code
Acute post-traumatic headache	339.21
Chronic post-traumatic headache	339.22
Cluster headache syndrome, unspecified	339.00
Post-traumatic headache, unspecified	339.20
Postconcussion syndrome	310.2
Primary thunderclap headache	339.43



Serious conditions to rule out after head trauma.
 = potentially life threatening.

Clues from the HISTORY when considering serious causes of headaches (TABLE 3)	
Finding	Consideration
Quality: Thunderclap headache	Subarachnoid hemorrhage (SAH)
Severity: Worst headache	SAH, cerebral venous thrombosis, vertebral artery dissection
Onset: Use of gas space heater	Carbon monoxide
Onset: Pregnancy	Pre-eclampsia, eclampsia, cerebral venous thrombosis
Associated symptoms: Change in vision	Glaucoma, optic neuritis, vertebral artery dissection, intracranial lesion, post-traumatic headache, temporal arteritis, CVA, idiopathic intracranial hypertension
Onset: New headache after age 50	Temporal arteritis, mass lesion, glaucoma
Onset: Younger than 10	Space occupying lesion
Onset: New headache in patient with a history of cancer	Metastasis to the brain
Onset: New headache in an HIV patient or in immunocompromised patient	Space occupying lesion
Onset: Headache that begins with exertion	Encephalitis
Onset: Headache associated with postural change	Space occupying lesion
Timing: Persistent morning headache with nausea	Space occupying lesion
Timing: Progressive, worsening over weeks or longer	Space occupying lesion
Quality/Severity: Headache dramatically different from past headaches	Space occupying lesion
Associated symptoms: Headache with atypical aura (duration > 1 hour, or including motor weakness)	Stroke
Associated symptoms: First time aura in a patient using combined oral contraceptives (estrogen & progesterone)	Stroke

Clues from the PHYSICAL when considering serious causes of headaches (Table 4)	
Finding	Consideration
Altered mental status	Intracranial lesion (e.g., stroke, tumor)
Meningeal sign	Meningitis, stroke
Positive "jolt" test	Meningitis
Focal neurologic signs	Intracranial lesion (e.g., stroke, tumor)
Rash	Lyme disease, Rocky Mountain spotted fever, meningococemia
Change in vision	Glaucoma, optic neuritis, vertebral artery dissection, intracranial lesion, post-traumatic headache, temporal arteritis, CVA, idiopathic intracranial hypertension
Fever	Infection (CNS vs. systemic)
Double vision	Intracranial mass, idiopathic intracranial hypertension, post-traumatic headache, dissecting aneurysm
Ptosis, miosis	Carotid artery dissection
Horner's syndrome	Space occupying lesion
Papilledema	Mass lesion, optic neuritis, pseudotumor
Dilated pupil	Aneurysm compressing third cranial nerve

If indications of a serious headache go directly to...

Step 4: Determine the need for ancillary tests/studies

Types of ancillary studies (Table 9)

Condition	Ancillary studies
Suspected instability (secondary to trauma or inflammatory disease (e.g., RA, AS))	Dynamic cervical films, cervical MRI
Suspected intracranial lesion (e.g., tumor)	MRI or CT (head)
Suspected subarachnoid hemorrhage or subdural hematoma	MRI or CT (head), spinal tap
Suspected meningeal infection	MRI or CT (head), spinal tap
Temporal arteritis	Biopsy

Indications for imaging for ominous headache (Table 10)

Indication	Imaging
"Thunderclap" HA with abnormal neuro exam	Emergent MRI
Isolated thunderclap HA	Consider referral for CT; abrupt onset HA has +LR 2.5 for intracranial lesion (based on one validating cohort study)
New onset if high risk for intracranial disease (e.g., HIV positive, prior dx of cancer)	Consider MRI or CT
HA with abnormal neuro exam (e.g., papilledema, unilateral loss of sensation, weakness, hyper-reflexia)	Consider MRI or CT, +LR 4.21 for intracranial lesion (based on one validating cohort study)
HA with fever or nuchal rigidity	MRI or CT
Progressively worsening HA	MRI or CT
Change in character of the HA	Consider MRI, +LR 2.0 for intracranial lesion (based on validating cohort study)
Persistence despite analgesics/course of treatment	Cervical X-ray or MRI or CT

(Grayson 2005, Miller 200)

HEADACHE SUMMARY SHEET 2: General Workup Revised 3/1/13

Summary of Evaluation Strategy

- Step 1: Rule out ominous headaches (pp 11-18)
 Step 2: Identify the type of headache (cervicogenic, myofascial, migraine, etc.) and pain generating tissue
 Step 3: Identify any significant triggering or contributing factors (e.g., forward head carriage, deep flexor weakness).
 Step 4: Determine the need for ancillary tests/studies.
 Step 5: Establish outcome measures and severity of the condition
 Step 6: Determine if there are significant psychosocial factors.
 Step 7: Establish a prognosis.

Condition/Diagnosis	ICD-9
Cervicogenic Headache	784.0
Chronic tension-type headache	339.12
Episodic tension-type headache	339.11
Migraine with aura	346.0
Migraine without aura	346.1
MFTP*	339

Summary of Physical Examination for Headaches

- ✓ Observation (e.g., alertness, orientation, antalgia, gait, color, sweating) (see p. 15)
- ✓ Blood pressure (see p. 15)
- ✓ Fundoscopic exam (see p. 15)
- ✓ Neurologic exam (see p. 16)
- ✓ Postural analysis (see p. 33)
- ✓ TMJ exam (optional)
- ✓ Cervical and thoracic AROM (see p. 27)
- ✓ Cervical orthopedic testing (see p. 29)
- ✓ Full spine palpation with emphasis on the cervical region and upper thoracics (see p. 27)
- ✓ Soft tissue palpation especially of muscles related to the cervical spine and cranium(see p. 29)
- ✓ Jull's test (see p. 30), cervical flexion rotation test (see p. 32), and cranio-cervical flexion test (see p. 21)
- ✓ Valsalva

At the practitioner's discretion, some or all of the above procedures may be appropriate.

Sample neurological exam

- Mental status
- Gait, orientation, responsiveness
- Cranial nerves II-XII
- Light touch or sharp/dull (upper and lower extremities)
- Muscle testing (minimally including a mix of proximal and distal muscles in all four extremities, may include pronator drift)
- Deep tendon stretch reflexes (biceps, triceps, patella, Achilles)
- Pathological reflexes (Babinski/ foot tapping and Hoffmann and/or clonus at the wrists and ankles)
- The jolt maneuver

Step 2: Identify the type of headache (cervicogenic, myofascial, migraine, etc.) and pain generating tissue.

Medication Overuse Headache? (see Appendix I for criteria, refer to PCP)

♣ *Clinical tip:* Relative to medications, the practitioner should elicit the following:

1. **NEW?** Whether the patient is taking any new medications
2. **DURATION?** How long the patient has been taking each medication
3. **CHANGE?** Recent change in dosage (and current dosage)
4. **WITHDRAWAL?** Recent withdrawal from a medication

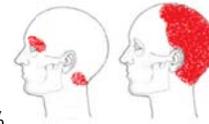
DDX: Unilateral Headaches DDX

Cervicogenic
 Migraine without aura
 Cluster headache
 Hemicrania continua
 Chronic paroxysmal hemicranias (CPH)
 Myofascial pain syndrome causing a headache*
 Tension-type headache (unilateral uncommon)

*May be classified as tension-type with tender points.

Step 2 continued: Identify the type of headache (cervicogenic) and pain generating tissue.

Cervicogenic Headache



Cervicogenic headache prevalence estimated to range from 1-2% overall to approximately 15-20%.

Clues from the History

- **Onset:** Originates in the neck, spreads to the forehead and temple region; frequently associated with a history of trauma.
- **Location & severity:** unilateral headache of moderate intensity located over the forehead and temporal regions. Location is “fixed” (i.e., it does not shift sides during a single episode or from episode to episode). When a patient experiences a more severe episode, the headache may become bilateral; in those cases the usual symptomatic side may continue to present as the worst side.
- **Chronology & timing:** episodic with an unpredictable duration (hours to days) and can evolve into a chronic fluctuating headache.
- **Quality:** Nagging and non-throbbing
- **Severity:** Less severe than a migraine, but more severe than a typical tension-type headache.
- **Onset triggers:** neck movement or awkward head positioning (e.g., sustained postures at work).
- **Associated symptoms:** a vague, non-radicular type pain in the shoulder or upper extremity; autonomic symptoms are infrequent and less severe than in migraines, but may include nausea, vomiting and ipsilateral periocular edema or flushing. Other possible symptoms include dizziness, phonophobia or photophobia (although not both), ipsilateral vision blurring, and difficulty swallowing.

🔑 <i>Clinical Tip:</i> The following information from the history can be useful:	
Does your headache shift from side to side, either during the headache or from episode to episode?	If yes , cervicogenic headache is less likely (migraine more likely). If no , cervicogenic headache more likely.
Where does your headache start?	If it starts in the neck <i>first</i> , cervicogenic headache or a myofascial pain syndrome is more likely.
If the headache is bilateral, does one side consistently hurt more than the other?	If one side is dominant, cervicogenic headache remains in the differential.

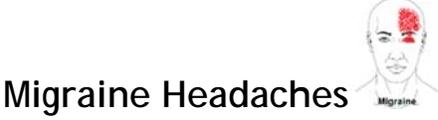
Clues from the Physical Examination

- **Painful, hypomobile, upper cervical spine segments (CO-3).** Palpation over the occipital area and upper cervical spine may reproduce head and neck pain.
- **Soft tissue tenderness:**
 - Anterior, posterior, and on the ventral upper trapezius border
 - C4, C5 transverse processes
 - The groove behind the mastoid process
 - Tendon insertions along the ridge of the EOP and mastoid process
 - Lesser occipital nerve (at the attachment of the SCM to the skull)
 - Greater occipital nerve (approximately 2 cm down and 2 cm lateral to the external occipital protuberance).
- **Restricted global cervical range of motion (CROM).**
- **Impaired deep neck flexors:** Positive Jull test or cervicocranial flexion test (detecting weakness or poor motor control).
- **The cervical flexion rotation test (CFR).** Positive test is more strongly linked with cervicogenic headache than with migraine or tension headaches.

For patients who do not respond to care, consider referral for diagnostic facet block.

Step 2 *continued*: Identify the type of headache (migraine, unilateral tension-type, etc.).

SUMMARY SHEET 3: Migraines and Other Unilateral Headaches



ID Migraine Quick Screen

Step One: Patients must report two or more headaches in the previous three months.

Step Two: The symptoms must be severe enough that the headache limits their ability to work, study or enjoy life or at least the patient presents with a desire to have their headache assessed.

Step Three: The patient must respond YES to at least two of the following three questions:

- Has a headache limited your activities for a day or more in the last three months?
- Are you nauseated or sick to your stomach when you have a headache?
- Does light bother you when you have a headache?

Prodrome: A prodrome precedes the migraine by hours or a couple of days. These symptoms include photophobia, phonophobia, nausea, blurred vision, trouble concentrating, neck stiffness, yawning and pallor.

Aura: An aura is a complex of neurological symptoms that occur just before or at the onset of the headache and consist most frequently of visual symptoms (e.g., flickering lights/spots/lines, loss of vision), followed by unilateral sensory symptoms (e.g., paresthesia or numbness which may include the extremities) and, rarely, dysphasia. There is usually no motor component. All of the symptoms are fully reversible, usually within an hour although the headache lasts longer.

DDX CGH and Migraine (Table 6)

Finding	CGH	Migraine no aura
History		
Unilateral HA that shifts from side to side (during or between episodes)		+
Pulsatile headache		+
Pain typically begins in neck	+	
Pain typically begins in head		+
Associated vague non-radicular pain in the shoulder or upper extremity	+	
Severe/dominating nausea, vomiting, photophobia, phonophobia	Mild, if present	+
HA responds to ergotamine or sumatriptan		+
HA improves or goes away during pregnancy		+
Prodrome		+
Finding	CGH	Migraine no aura
Physical		
Decreased cervical active ROM	++	+
Reduced cervical rotation with the neck in flexion	+	
Palpatory pain and loss of joint play in upper cervical joints	++	+
HA provoked by manual pressure on the upper cervical spine (symptomatic side), or with continuous neck extension	+	
Poor endurance and control of the deep neck flexors	+	
Combination: Reduced AROM, upper cervical joint dysfunction, & positive craniocervical flexion tests	+	
Favorable response to diagnostic nerve/joint block	+	

Both cervicogenic headaches and migraines can be unilateral, are more common in women, and may present with nausea or vomiting. A long duration favors CGH. is generally longer lasting than for a typical migraine. A prodrome, an aura, or a clear non-musculoskeletal trigger (e.g., red wine, menses, etc.) suggests a migraine.

Tension-Type Headaches

A tension-type headache diagnosis is based on patients having 10 or more episodes fulfilling all of the following criteria:

- **Duration:** Headaches lasts from 30 minutes to 7 days
- **≥ 2 of the following characteristics:**
 - **Quality** of pain is pressing/tightening, but not pulsating
 - **Severity** is mild to moderate (inhibiting, but not prohibiting activities)
 - **Location** is bilateral (although unilateral forms occur that must be differentiating from other unilateral headaches)
 - **Aggravating factors**—*no* aggravation with walking stairs or similar activities
- **Both of the following pertinent negatives**
 - *No* nausea or vomiting
 - Photophobia and phonophobia are not *both* present (but one *or* the other may be present)
- **The headache is *not* attributable to another type of headache** (e.g., probable migraine without aura, cervicogenic headache or medication overuse headache)

Other Unilateral Headaches

Hemicrania continua. Chronic daily headache with conjunctival injection, lacrimation and ptosis; responds dramatically to indomethacin.

Cluster Headaches. Severe, strictly unilateral pain located about the eye. Male preponderance. Uncommon. May last anywhere from 15 minutes to 3 hours, repeating 1-8 times throughout the same day. The headache swarm occurs over a matter of days or weeks, followed by long headache-free periods. Symptoms include conjunctival injection, lacrimation, nasal congestion, rhinorrhea, forehead and facial sweating, miosis, eyelid edema, and ptosis.

Chronic paroxysmal hemicrania (CPH). Episodes are very severe, frequent (periods with > 5 episodes per day), and of short duration (3 to 30 minutes). Autonomic symptoms are the same as for cluster headaches. Much less common than cluster headache, often of shorter duration (2-30 minutes), more frequent (often ≥ 5 per day) and more common in females. May be rapidly precipitated by palpation or mechanical stimulation of posterior cervical structures, especially the transverse processes of C4 or C5 and along the groove behind the mastoid process. Unlike cluster headaches, indomethacin completely blocks episodes of CPH.

Other causes include MFTP, TMJ. sinus.

Step 3: Identify any significant triggering or contributing factors.

- Forward head carriage (see p. 33)
- Upper cross syndrome (see p. 35)

Step 4: Determine the need for ancillary tests/studies.

See Summary Sheet 1.

Step 5: Establish outcome measures and severity of the condition

Outcome Measures

- **Symptoms.** Headache frequency, duration and severity, measured on an oral pain scale (OPS) or visual analogue scale (VAS), should all be routinely monitored. Pain referral from the neck that centralizes to the cervical spine may also be monitored.
- **Effects on work performance and daily activities.** These disabilities should be recorded and monitored for improvement. The patient specific functional scale (see CSPE protocol) and/or a specific disability questionnaire such as the Headache Impact Test (HIT /HIT 6) [www.headachetest.com] or the HDI should be used.
- **Analgesics.** Baseline severity and patient response can also be measured in part by evaluating analgesic use.

Step 6: Determine if there are significant psychosocial factors.

See p 38 of care pathway.

Step 7: Establish a prognosis. See p 39 of care pathway.